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THE

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A

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EDITED BY

FRANK P. FOSTER, M.D.

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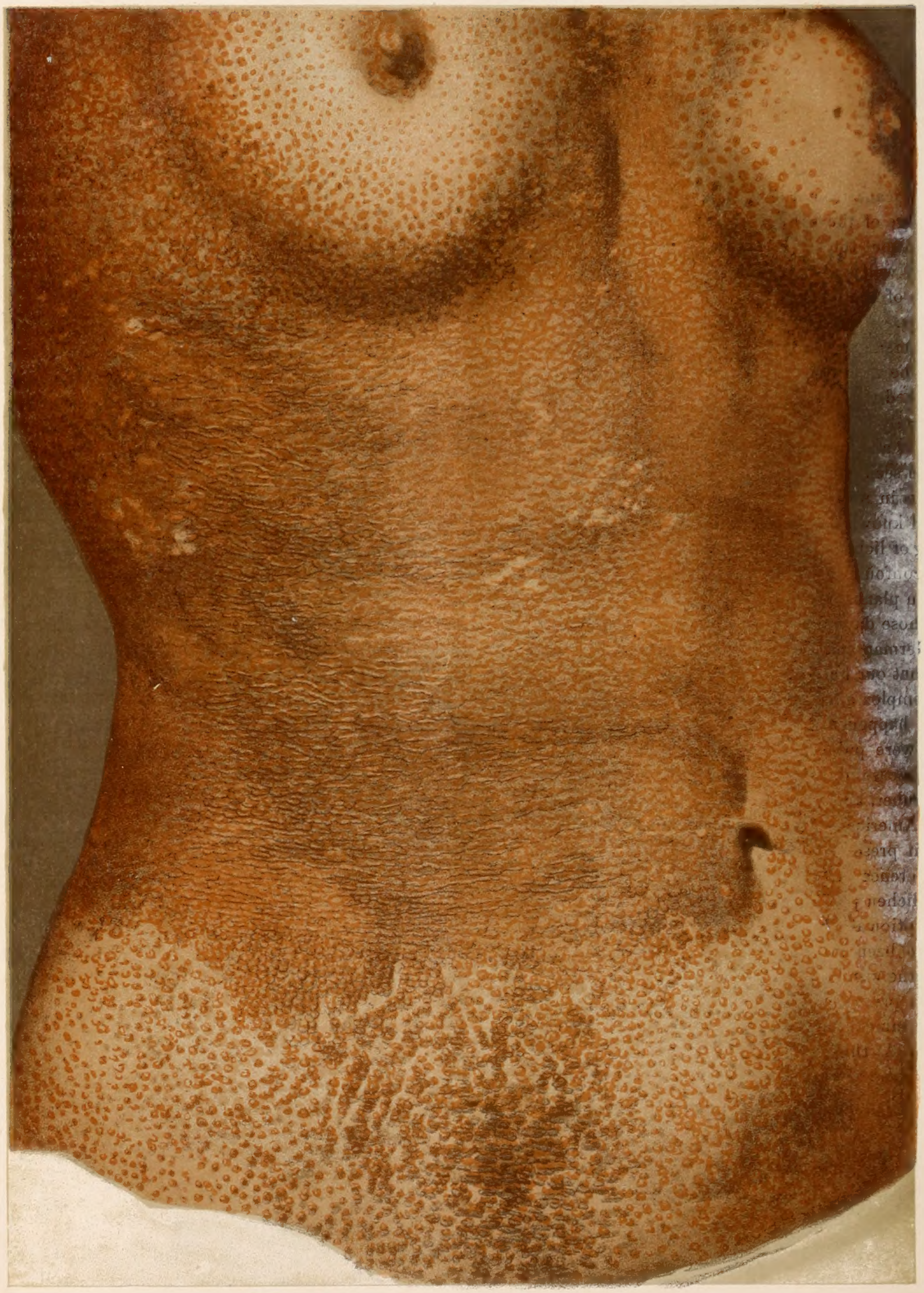

DR. TAYLOR'S CASE OF LICHEN RUBER.

THE NEW YORK MEDICAL JOURNAL, JANUARY 5, 1889.

## Original Communications.

# LICHEN RUBER AS OBSERVED IN AMERICA, AND ITS DISTINCTION FROM LICHEN PLANUS.*

By R. W. TAYLOR, M. D.,

SURGEON TO CHARITY HOSPITAL AND TO THE DEPARTMENT FOR VENEREAL AND SKIN DISEASES OF THE NEW YORK HOSPITAL.

Prior to the year 1874 lichen ruber was known in Germany, mainly through the teachings of Hebra, as a rare and peculiar disease. In America nothing was known of it from actual observation, and our information was derived from Hebra's hand-book and from the descriptions brought back by Americans from Vienna. This was also the status of knowledge of the subject which existed in England at that date. About the same time lichen planus had come to be tolerably well known in Great Britain, chiefly through the writings of the late Sir Erasmus Wilson and the late Tilbury Fox. From these two eminent English dermatologists we in America gained our first knowledge of the latter disease. The state of affairs was practically this: lichen ruber was looked upon as a peculiar papular form of eruption seen quite rarely and only in Germany, and lichen planus was regarded as a rather unusual and distinctive form of papular eruption seen quite frequently in England, and also in a few instances in America. Lichen ruber, therefore, was tolerably well known by the Germans, who knew then seemingly nothing of lichen planus, and many of these authorities even to-day confound the two, while the English had clear notions of lichen planus and very hazy ones about lichen ruber. As we in those days were in reality students at the feet of the great German and English teachers, it can be readily understood that our knowledge of these not common and somewhat complex affections was not clear and precise. At this time it happened that a series of typical cases of lichen planus were published in America, together with the history of a case of very extensive eruption, which was really lichen ruber, and which, unfortunately, fell under the eyes of the American observer in the one stage of its course in which it presented points of resemblance to lichen planus. The inference was naturally drawn that the localized eruption of lichen planus represented one form, and the generalized eruption another form of the same disease—a view which had also been mildly urged by Tilbury Fox. Thus it was that in the minds of many American dermatologists the impression prevailed that these diseases were essentially one and the same; the one limited, the other general in distribution. At this time Hebra's most eminent disciple in Vienna became convinced by the facts offered in the American essay of the identity of the two diseases, a view which he has since steadily maintained. During the past eight years, however, much has been done by several American observers in the study of lichen planus, most of whom regard it as not identical with lichen ruber. The difficulty experienced in this country lay in the fact that lichen ruber is here a very rare disease, and consequently there have been few opportunities for its study. It has been my good fortune to have under prolonged observation two very characteristic cases, in one of which the disease ran its course twice, and besides to see four cases shown by friends. These two cases have afforded me exceptional opportunities for the study of lichen ruber, as seen in this country, and from them I am able to present a description of the disease based upon personal observation and illustrated by a number of very accurate colored and black and white drawings taken from life, which is the only systematic one, I believe, that has appeared in the English language, since the existing descriptions are all based on the original of Hebra. The facts presented will, I think, convince any truth-seeking and conservative observer that lichen ruber is a distinct morbid entity without the shadow of relation to lichen planus. As a corollary of the clinical description, I shall add a table of differential diagnosis of the disease from lichen planus, based upon the study of sixty-four personal recorded cases, and of many others of the latter disease. The microscopic appearances of lichen ruber in its various stages are also described and figured. This work has been done for me by Dr. Ira Van Gieson, of the Pathological Laboratory of the College of Physicians and Surgeons. The pathological changes depicted in the drawings and the conclusions drawn from them may be accepted as correct, since the figures are exact reproductions of the sections of skin examined in the light of the advanced technique of to-day and are not tinctured or modified in delineation or description by a bias for dermatological theories. These observations prove that the view held by some observers that lichen ruber is essentially an epidermal disease or hyperkeratosis is incorrect, and that the superficial lesions of the corneous layer are due to deeper-seated inflammatory and exudative processes. This fact has never before been brought out.

The details of my second case are given with all possible brevity, and, though no mention is made of the first case, the experience derived from its study will be used in this essay.

The patient is a female, aged thirty-seven, a native of Switzerland, single, a dressmaker, a woman of marked intelligence, of perfectly healthy parentage, and herself healthy throughout life, except when suffering from the skin affection. She arrived from Europe early in June, 1884, and was promptly attacked by a skin disease of extensive development, similar to the present, which lasted a year and disappeared under simple remedies without leaving any blemishes. Two years later (1886) she had another, but much less extensive, eruption which passed away in a few months.

In March of this year (1888) she was again attacked, and came to my clinic at the New York Hospital early in June. The eruption began as groups of pimples on the neck, at the top of the sternum, and about the chin, without any itching or discomfort or any accompanying systemic disturbance. When examined by me the disease had attacked the whole of the face and the neck; it had extended over nearly the entire back as far as the buttocks, over the shoulders, down to the middle of the outsides of the arms, over the clavicular regions and the axillæ, over the whole anterior surface of the trunk, sparing the prominences of the breasts, down to the labia majora, over the thighs, and ending just below the great trochanters. It existed itself in the effacement of its papular elements. These little bodies become more and more indistinct individually, until at last the eruption consists of a uniform brownish-red, slightly scaly, superficial thickening of the skin, which is traversed by the minute natural furrows of the skin in longitudinal, circular, oblique, and transverse directions. Owing to the increase in the corneous elements of the skin, these furrows become deeper than normal, and they divide up the morbid areas into various shapes, some very noticeable, others less so, and corresponding to their direction, after the manner of the hide of an alligator. This constitutes the third stage, in which the disease is chronic, indolent, infiltrated, scaly, and slightly pigmented, all signs of previous papulation having disappeared and no new lesions then showing themselves. In this stage, judging from my experience with cases seen on this side of the Atlantic, the disease may undergo involution after considerable periods. The previous attacks in the present case are said to have subsided spontaneously. In Germany, however, the disease frequently persists until a dry, file-like, harsh, infiltrated skin results, the superficial disease having then caused a true inflammation of the whole thickness of the skin.

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* Read before the American Dermatological Association at its twelfth annual meeting, September 19, 1888. (Since further elaborated.)

With these facts in mind, I think that a very clear idea of the disease may be obtained by a study of the chromolithograph. Below are seen the reddish-yellow discrete papules, and just on a level with the iliac crest they are seen to be coalescing, whereas above that they are lost in vast expanses of thickened skin. The oases of healthy skin on the side over the ribs are very characteristic.

In this stage the brownish-red color of the eruption becomes deeper, the itching may be rather more pronounced, the infiltration is greater, the skin surface decidedly rougher and more scaly, and the minute hairs are either destroyed or their nutrition is much impaired.

It can readily be imagined that, in inveterate cases, such as Hebra first observed, the whole integument was transformed into a harsh nutmeg-grater or file-like tissue. It will be seen, therefore, that the roughened feel of the skin can only be noticed in the very early papular stage and in the late infiltrated stage, and that it is smooth and leathery in the middle stage.* As involution occurs, the suppleness and natural glossiness of the skin return, but a diffuse, brownish-yellow pigmentation of mild character is left, accompanied for a time with moderate desquamation. This pigmentation is, in a measure, characteristic of the disease in that it has not the red tinge of a departed eczema, nor the brownish-red hue of a vanished psoriasis. More particularly it differs wholly and radically from that of lichen planus in being uniform in sheets, rather than blotchy, patchy in spots, and in not being of a rusty brown, a brownish-red, or a crimson-red color, which are so constant in the latter affection. In lichen planus pigmentation there is evidence of much quite deep effusion of the red corpuscles; in lichen ruber it is very trifling and superficial.

In Fig. 1 are shown, with admirable fidelity, the appearances of the palm in my case, which are essentially those of chronic, scaly, and infiltrated eczema. The patient, moreover, complained of the sensation of tension and impairment of movement so constant in the latter affection. In Fig. 2 the epidermal thickening is shown in a very marked degree upon the sole of the foot. The increase of the corneous cells was very great. Such a condition is never seen in lichen planus.

Finally, I would call particular attention to the condition of the nails, which, in Fig. 3, are shown to be opaque, of a dull-white or dirty-yellow color, rough and serrated on their surfaces, and fully four times their normal thickness, as is clearly shown in Fig. 1. It is natural to suppose that a disease the acme of which is seated in the corneous layer of the skin should work a radical change in the nutrition of these kindred appendages. There is no concomitant nail affection in lichen planus.

The foregoing facts, I think, very clearly and forcibly show that in America lichen ruber presents precisely the same clinical characteristics that it does in Germany, with, perhaps, the qualification that it has not been seen here as yet in such an inveterate and deadly form as Hebra first described. I think that it has been shown that the disease has striking peculiarities, and that only in one stage, and that a short one, can it by any possibility be mistaken, at least by a trained clinician, for lichen planus. In order, however, to settle this question of the supposed relationship of lichen ruber and lichen planus beyond doubt and cavil, I have prepared the following table, which presents all the points of distinction:

| LICHEN RUBER. | LICHEN PLANUS. |
|---|---|
| 1. A very rare disease. | A not uncommon disease. |
| 2. A disease of remarkably constant uniformity of type-form, its lesions passing through definite stages of evolution without the slightest tendency to polymorphism, and finally being lost in a general thickened condition of the skin. | A disease sometimes showing much deviation from the type-form, chiefly by reason of the not uncommon great increase it causes in the epidermal layers which convert the patches into dense, hard, rough, dark-brown, even crimson-brown, uneven, rugose patches of irregular outline (knees, elbows, and sometimes wrists). |
| 3. Symmetrical in its distribution, spreading from the | As a rule, symmetrical in its distribution, beginning usu- |

---

* My studies have convinced me that the main reason why lichen ruber is not clearly understood by dermatologists lies in the fact that too much stress is laid on the conical condition of the papules, which is thought by many to exist throughout the whole course of the disease. According to my reading and experience, the file-like condition of the skin in the third stage of lichen ruber is supposed by most observers to be the direct outcome of the early conical papular stage. In other words, it is thought that the multiplication and growth of the conical papules result in the harsh, file-like condition of the chronic stage. The facts presented in this essay show very clearly that this is not the case. The disease does begin by the appearance of conical papules, which soon become rounded and then flat, and are finally lost in a general thickening of the integument, mainly of the epidermis. The resulting file-like and harsh condition of the skin is simply due to its quite deep corrugation, which condition is produced by the deepening of the natural surface furrows or lines; in other words, by a greater or less superficial fissuration in a uniformly thickened skin. The loss of elasticity consequent upon the thickness and harshness of the skin tends to accentuate the condition of corrugation, even to the production of deep fissures, when the part is submitted to much movement and stretching.

| LICHEN RUBER. | LICHEN PLANUS. |
|---|---|
| upper parts of the body downward, in anatomical succession. | ally on the inner aspects of the forearms near wrists, on lower parts of abdomen and inner parts of thighs and legs, chiefly near knees. Beginning on a region or regions, it tends to spread in a more or less discrete manner over them alone. |
| 4. Shows a tendency to attack a large extent of surface, and even to invade the whole body in a uniform way. Face almost as a rule affected. | Shows a tendency to limitation on the extremities, lower abdomen, and neck; not known to attack the face. Rarely involves large surfaces in a uniform eruption, and never the whole body, even in a discrete manner. |
| 5. Morbid changes seem to begin superficially in corneous layers. | Morbid changes begin in the substance of the corium. |
| 6. Not perceptibly inflammatory in early stages; no hyperæmic areola. | Consists of circumscribed inflammatory spots and patches; hyperæmic areola usually present, though not extensive, and may be absent. |
| 7. Slowly but surely tends to extend. | May extend to other regions, but very commonly remains indolent and localized. |
| 8. Begins as small conical papules of waxy appearance and of neutral orange or slightly brownish-red color which, in due time, become obtuse, then flat, with a slight central depression and very moderate desquamation; surfaces smooth and shiny, but not silvery or micaceous. | Begins as red papules, not markedly conical, which flatten out into round, oval, angular, and star-shaped outlines, with silvery surfaces covered with much-thickened corneous layers, and with noticeable central depression; surfaces very frequently shiny and micaceous; never having a waxy look. |
| 9. Papules reach their full development (a line or less in area) and never grow larger. Large patches always formed by the multiplication and fusion of papules of uniform size. | Papules increase by peripheral growth until usually they attain a diameter of one to four lines; may develop into true patches, chiefly from irritation, friction, and pressure (scratching, irritation of coapting surfaces, strong applications, garters and bands around body); may develop *de novo* on scratch-marks. Large patches formed by fusion after moderate or excessive peripheral growth of papules. |
| 10. Papules seem destined to reach maturity after a due process of growth and then to fuse into patches which may, later on, undergo involution. No exceptionally early or premature involution occurs in a single or several papules. They all seem to "hang together." | Old papules may show a tendency to undergo involution sometimes quite early, while new ones appear close by or at a distance. Each papule seems to run a course entirely irrespective of its fellows, either of short or long duration. They do not as a rule "hang together." |
| 11. Color of papules at first of a neutral orange, and as they grow in size and in proportion as they become aggregated they are of a warm brownish-red, which is often heightened by acceleration of the circulation. | Color of papules at first of a deep-red, which soon becomes of a purplish, violaceous, or lilac hue. On lower limbs sometimes of a deep, even bluish-red color. Not much influenced by the circulation. |
| 12. In chronic stage all traces of papules lost; the surface is rather rough to the touch, but of an even plane and of a brownish-red color. | In chronic stage, particularly where the epidermis is thick (knees, ankles, elbows (rare)), epidermal hypertrophy results in dense, hard, uneven, sometimes rugose surfaces, even to a marked verrucous condition, with a deep-red, even bluish-red, color. Traces of original lesions entirely gone. |
| 13. Patches diffuse, even involving whole regions, not very scaly, of uniform, even surface, traversed by the deepened and much exaggerated natural furrows of the skin; of remarkable uniformity of color. | Patches, covered with much abnormal adherent epithelium, desquamating moderately; very irregular in outline and size, of decidedly uneven surface, without uniformity of color, which may even vary from day to-day from silvery hue to a dull red. |
| 14. Invades the palms and soles in totality in uniform patches. | Not common on palms and soles; when present, consists of localized patches. |
| 15. Attacks the nails, causing hypertrophy, impairs their nutrition, and may even destroy them. | Nails unaffected, except very rarely in inveterate cases by extension from the backs of the hands. |
| 16. Causes impairment of nutrition and loss of hairs, chiefly of body. | Hairs unaffected. |
| 17. Not known to attack mucous membranes. | May attack mucous membranes (mouth and glans penis). |
| 18. Leaves a diffuse, uniform, not accentuated yellowish-brown pigmentation, in large expanses. | Leaves dull-red, brownish-red, rusty-brown, crimson-brown pigmentation in spots and irregular-shaped patches. |
| 19. Itching very mild, if ever present, at its early evolution; may be moderate in chronic stages. Never severe or in proportion to the extent of lesion and of surfaces involved. | Itching very often severe at time of invasion; is present afterward in mild or intense form, usually in exacerbations. |
| 20. Attended with concomitant emaciation; in inveterate cases, death by exhaustion. | No emaciation nor, as a rule, any serious systemic reaction. |

*Prognosis.*—The earlier writings of Hebra produced the impression upon the mind that lichen ruber was a deadly disease; that it was chronic in nature and that it gradually became complicated with asthenia and emaciation, over which all treatment was powerless. Later observations convinced this observer that at least some cases were curable by means of the long-continued administration of arsenic. Kaposi,* in his lectures, says that we can with certainty promise a cure in all cases of this disease except those generalized ones in which severe marasmus has supervened. My experience with the disease in this country, where it is very rare indeed, is of course rather limited; but it has not convinced me of its inevitably deadly nature, nor of its relentless progression from bad to worse. In my first case, the patient, at the age of thirty-eight, became attacked with lichen ruber, which extended nearly over the whole body. Yet he did not fall sick, nor did his nutrition in any manner apparent to the senses suffer. In one month the disease nearly covered the body, and under treatment he presented no evidence of the disease at the end of three months. Six years later, without known cause, he had a second generalized attack, similar as to the extent of the lesions and the absence of sickness and emaciation, and this was cured by energetic treatment in about two months. Since that time (1879) the man has remained free from the disease.

---

* "Pathologie und Therapie der Hautkrankheiten," Wien, 1883.

The history of my second case shows very clearly that the first attack of lichen ruber was very extensive, lasted a full year, and then disappeared under the use of simple domestic remedies. A second attack, two years later, less extensive, however, lasted only a few months and then disappeared spontaneously. The third attack, which began in March of this year (1888), is now, December 23d, practically cured, and during its existence the woman, though she became somewhat thin during the summer, did not suffer from a condition of ill health greater than she had experienced in past years when her skin was free from disease. I do not wish to be understood as drawing conclusions as to the modified severity, and I may almost say ephemeral course, of the disease in this country from these two cases, for I simply put on record the facts as they presented themselves.

*Treatment.*—German authorities since Hebra's time have used arsenic in full and long-continued doses in the treatment of lichen ruber, and the remedy is looked upon by them as unique and specific in its action. While I have faith in the therapeutical action of this drug in many skin diseases and have no doubt of its efficacy in some cases of lichen ruber, I am far from the opinion that the treatment can be summed up in one word—arsenic—as German writers seem to imply. In my first case, during two attacks of the disease, the patient was treated by alkaline diuretics with the view of reducing cutaneous hyperæmia, and by a well-regulated system of external medication. In my second case neither arsenic nor alkaline diuretics were beneficial, and I may say that they were even harmful. A combination of citrate of iron, quinine, phosphoric acid, and strychnine improved the patient's appetite, allayed nervousness, and increased nutrition. Such was the benefit that she thought she derived from this combination that she showed a zeal to use it even to excess. My experience with the treatment of lichen ruber has thoroughly convinced me that sufficient stress has not heretofore been laid upon external treatment. The disease being a moderately exudative one with much epidermal increase, the indications for baths and cutaneous stimulation are, I think, clearly marked. Stated briefly, my experience teaches me that frequent hot alkaline baths (sal soda and borax, 100°–115° F.) are of the greatest value. They relieve cutaneous hyperæmia, soothe the pruritus, carry off the effete epidermis, and undoubtedly cause absorption of the products of inflammation. After numerous trials, I have come to place high esteem upon brisk and thorough frictions of the affected surfaces with the compound tincture of green soap. These may be made every day. If possible, this tarry liquid should be rubbed into the skin two or three hours before the bath is taken, and, where the surroundings of the patient will admit of it, a mild friction after the bath should be made and the skin then left unwashed. If during the day the patient can not allow the film resulting from such frictions to remain on the body, the parts should be very sparingly anointed with vaseline. I am convinced that much of the chronicity of the disease may be mitigated and shortened by oily inunctions, and that the inelastic, roughened condition of the skin incident to the disease tends of itself decidedly to perpetuate its existence. Alkaline baths as hot as can be borne with comfort at night, followed by the tarry frictions, and in the morning repetition if possible of the same—but under any circumstances, by the inunction of some bland oily preparation, such as vaseline—constitute, in my experience, the most decidedly valuable therapeutic measures. About the hands and fingers, and indeed on all parts where the epidermis is much thickened, especially where there are fissures (sometimes deep and painful), the greatest care should be exercised that the parts are fully and continuously covered. For this purpose I know of no remedy so beneficial as freshly made diachylon ointment with balsam of Peru ( ℥ j and ʒ j). The action of this ointment may be enhanced when used upon the fingers or limbs, or indeed on any parts where a roller bandage can be applied, by moderate and graduated pressure. When the disease is severe about the nails, great care is necessary in removing epidermal increase and in keeping the parts well invested in the ointment.

*Microscopical Examination and Pathology.*—Portions of the excised skin from the hypogastric region and from the outer and upper surface of the thigh were hardened in alcohol; other portions from these places were prepared with chloride of gold (Chrzonszczewsky's method); other pieces were treated with a one-per-cent. solution of osmic acid for twenty-four hours, this giving the best results. The sections were stained with hæmatoxylon and eosin. The patches of skin taken from the hypogastric region were covered with papules in varying stages of closeness of packing, while that from the outer surface of the thigh was studded with discretely placed lesions.

1. *The changes in the epidermis* consist of a hypertrophy of all its layers, with infiltration of the rete mucosum with leucocytes, of a localized destruction of some of the more superficial cells, and a pigmentation of many of the deepest cells of the rete.

The surface of the skin from the thigh and hypogastric region is very uneven and corrugated. In all the portions examined there is a thickening in varying degrees of the epidermis, with inward prolongations here and there of the interpapillary portions of the rete mucosum (Figs. 9, 6, and 10). In places the corneous layer is very much thickened (Fig. 9), and often its superficial laminæ are packed together rather densely, as though flakes or crusts were being formed. The stratum lucidum is also thicker than in check sections

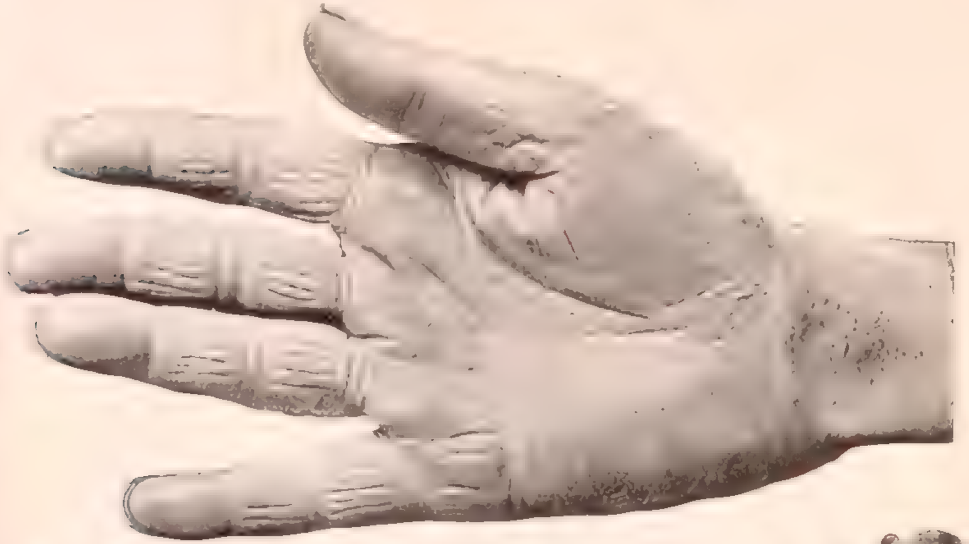

Fig. 1. [illegible]

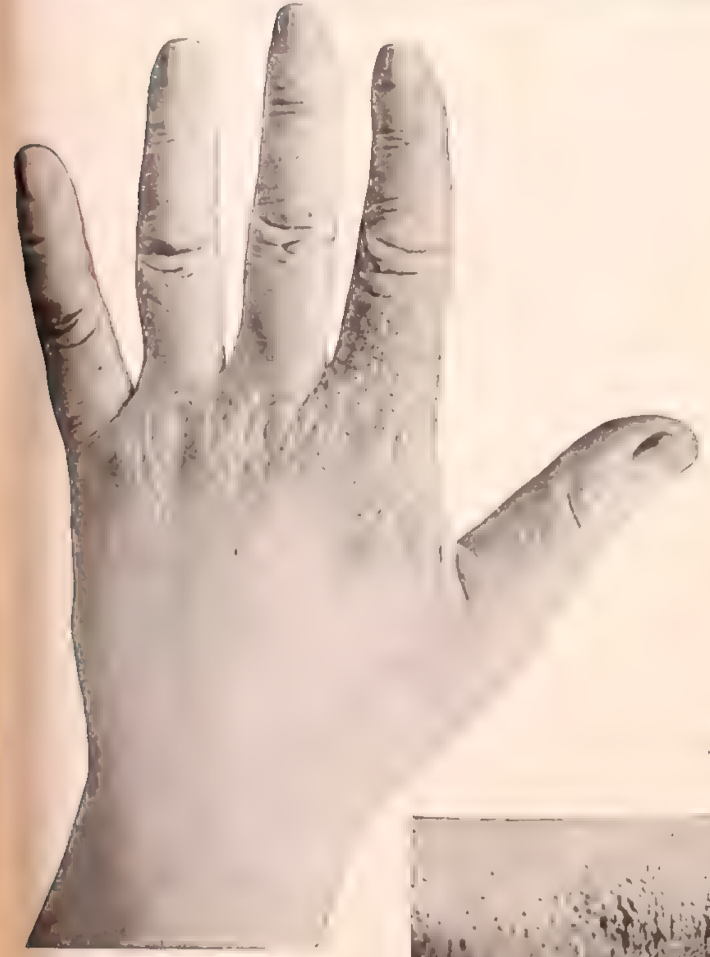

Fig. 2. [illegible] of the [illegible] the finger [illegible] papules [illegible]

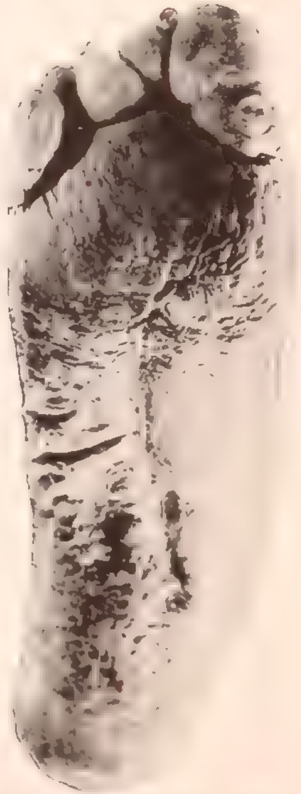

Fig. 3. [illegible]

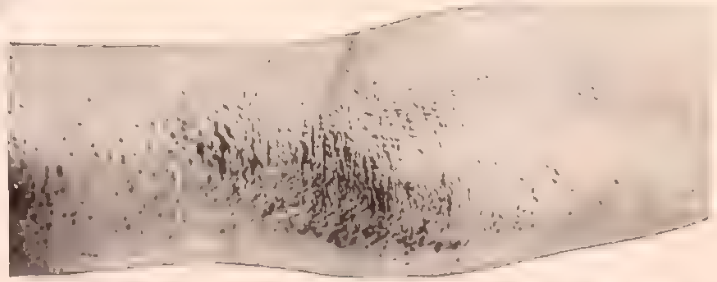

Fig. 4. [illegible]

Fig. 5. [illegible]

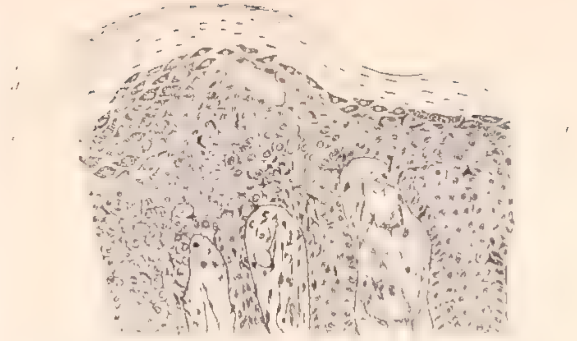

Fig. 6. [illegible] stratum granulosum [illegible]

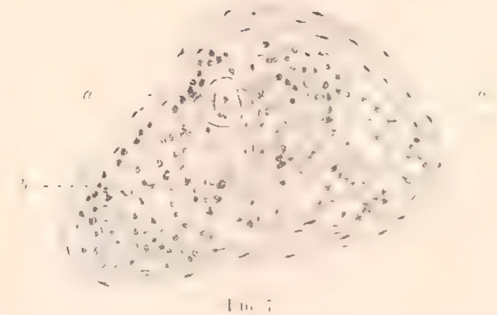

Fig. 7.

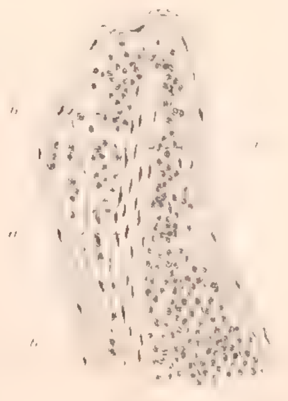

Fig. 8.

Figs. 7 and 8. [illegible] with their perivascular spaces filled with small round cells, and at *b* a few larger cells lying in the meshes of a delicate reticulum.

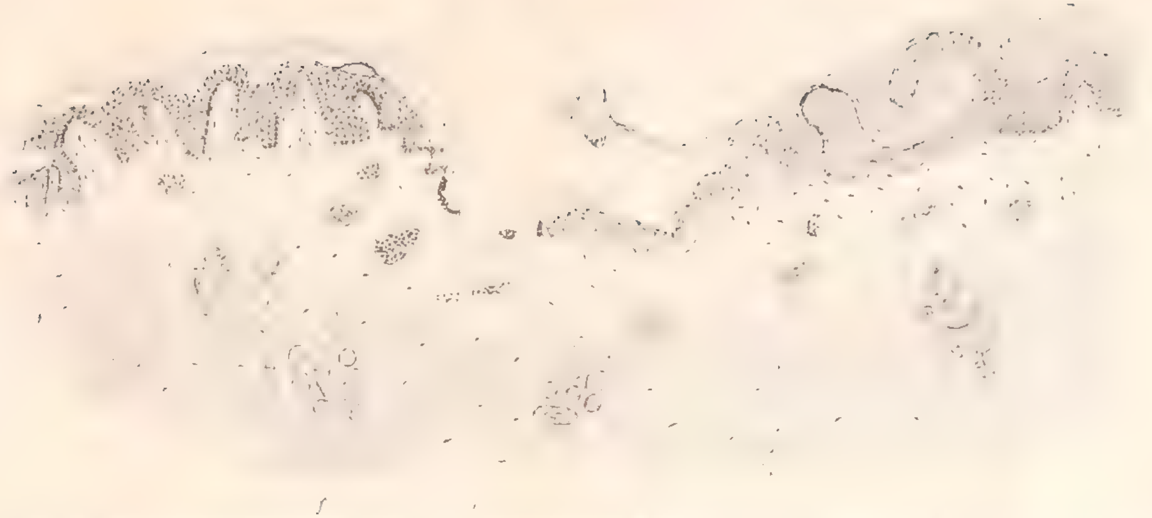

Fig. 9. [illegible]

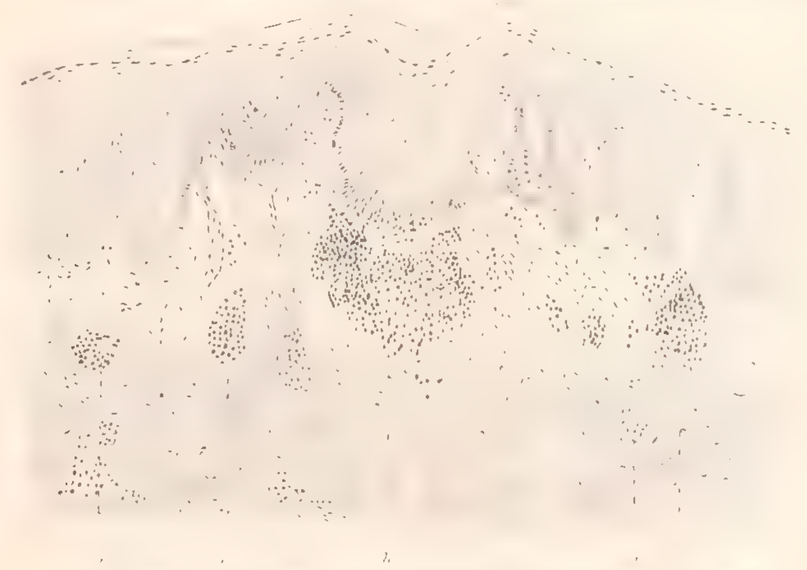

Fig. 10. [illegible] of small round cells around the vessels of the papillary dermis, and at *b* larger clusters of small round cells.

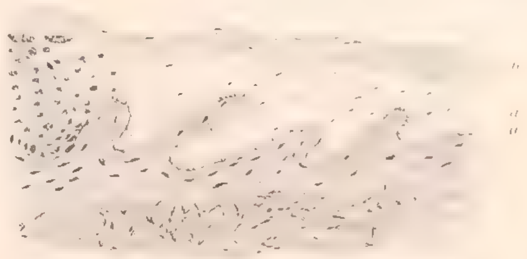

Fig. 12. [illegible] at the junction of the degenerated rete Malpighii [illegible] derma; *b*, stratum [illegible]

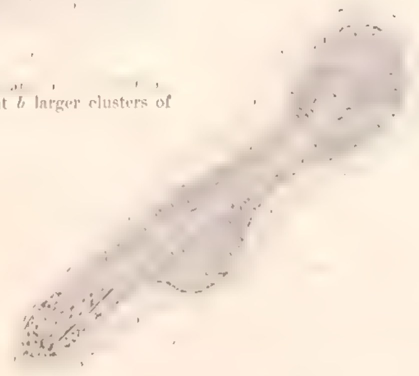

Fig. 11. [illegible] of epithelial cells, corresponding to the cells of the outer root-sheath, which pouches out slightly the dermic coat; *c*, atrophied bulb and papilla. Above the false-hair bulb [illegible]

DR. R. W. TAYLOR'S ARTICLE ON LICHEN RUBER.

of normal skin from the hypogastric region (Figs. 6 and 10).

There is a premature keratosis of many of the cells of the rete mucosum, as the cells of the stratum granulosum, which contain the eleidin droplets of Ranvier * (keratohyalin substance of Waldeyer), extend in places to a considerable extent into the rete Malpighii (Fig. 6, *c*). Frequently these cells lie as deep as a line midway between the lower surface of the stratum lucidum and the level of the apices of the papillæ. This eleidin substance is believed to be intermediate in its chemical composition between the cell protoplasm and the corneous material.† There is a general slight invasion of the rete with leucocytes. These are most abundant in the lower layers of the cells, as is seen best in osmic-acid preparations (Fig. 6).

In the superficial layers of the rete, just beneath the stratum lucidum, are a limited number of small cavities almost completely filled with granular detritus (Figs. 9, *m*; 6, *d*). These cavities seem to be produced by a disintegration of some of the superficial epidermis cells, as there are groups of these cells with indistinct outlines and shrunken nuclei. Their protoplasm is transparent, and does not stain with eosin.

The skin from the hypogastric region is grooved with a few deep, narrow furrows lined with a degenerated layer of epidermis cells, resembling the stratum lucidum in structure, which extends, in some sections, nearly to the derma (Fig. 9, *h h*). The partially degenerated epidermis seems to have been loosened from some places in these furrows by a cracking or stretching of the skin, leaving the corium bare (Fig. 9, *g*). The degenerated zone is composed of a degenerated, slightly granular translucent substance which does not stain with hæmatoxylon or eosin, and contains a few flattened scale-like nuclei. In the skin from the hypogastric region there are a few small patches in which the entire breadth of the rete mucosum is converted into a zone resembling the stratum lucidum in structure (Fig. 12). The papillæ and papillary derma beneath these patches of degenerated rete are slightly denser than the surrounding corium (Fig. 12).

2. *The lesions in the derma* consist of changes in the blood-vessels of the papillæ and pars papillaris and their perivascular spaces, in the smooth muscle-fibers, and in the hairs.

The endothelium of many of the smaller vessels is swollen and granular. The perivascular spaces of the vessels of the pars papillaris are uniformly filled with an exudation of serum and small round cells in varying proportions (Figs. 9, *e*; 7; 8; 10, *a*). Among the small round cells are a few larger rounded granular cells, some of them having a cell wall (Fig. 7, *b*; 8, *b*). The perivascular spaces contain a delicate reticulum, composed partly of the adventitia of the blood-vessels and partly of the stroma of the fat columns of Collins,‡ which accompany the vessels from the panniculus through the derma. Many of the larger granular cells are probably metamorphosed fat cells of the atrophic fat columns. In the papillary derma, lying often close to the rete, are a few larger clusters of small round cells, in the vicinity of which the connective-tissue cells are increased in number.

The papillæ in osmic-acid specimens from the hypogastric regions are very œdematous. Their interfibrillary spaces are distended with fluid and contain a few leucocytes.

The smooth muscle-bundles are hypertrophied.

Only a very few hairs were found in the sections, and in a longitudinal section of one hair the dermic sheath is thickened, and the bulb of the primary hair is shrunken and fused with its papilla. Just above and at one side of the primary hair-bulb is a secondary or false hair-bulb, composed of a group of outer root-sheath cells which pouch out slightly the dermic coat (Fig. 11).

Sections stained with Herxheimer's method for elastic fibers show no abnormity in their number or arrangement.

The small nerve-bundles in the subcutaneous connective tissue are normal (osmic-acid staining). In sections prepared with chloride of gold only a few of the fibers of the sub-epidermal plexus were stained.

The sweat-glands are normal, except that the orifices of some of them show a funnel-shaped dilatation. No sebaceous glands were found in the sections.

No bacteria were found either in the sections or cover-glass preparations of the blood.

*Conclusions.*—There is, then, in this case of lichen ruber an hypertrophy of all the layers of the epidermis, associated with an exudative inflammation in the papillæ and papillary derma.

# SOME TENOTOMIES FOR THE CORRECTION OF HETEROPHORIA,

## *WITH RESULTS.**

By DAVID WEBSTER, M. D.

Since the first of July, 1886, a period of a little over two years, I have performed the operation of tenotomy for the correction of heterophoria, or latent or dynamic squint, in forty cases. Twenty-five patients were operated upon only once each, while sixteen had a second tenotomy performed, making fifty-five tenotomies in all.

These tenotomies are classified as follows:

| | |
|---|---|
| Tenotomies of the inferior rectus...... | 3; |
| Tenotomies of the superior rectus..... | 7; |
| Tenotomies of the external rectus...... | 19; |
| Tenotomies of the internal rectus...... | 26. |

Three of the patients had been previously operated upon by Dr. C. R. Agnew, one by Dr. E. G. Loring, and one by Dr. G. T. Stevens. Dr. Stevens had done two tenotomies on his patient, and Dr. Agnew and Dr. Loring one each on theirs, so that in the forty cases sixty-one tenotomies were done.

The tenotomies performed by me were all, or nearly all, done according to the method described by Dr. George T.

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* "Sur une substance nouvelle de l'épiderme et sur le processus de kératinisation du revêtement épidermique." "Comptes rend. de l'acad. des sciences," 30 Juin 1879.

† C. Toldt, "Lehrbuch der Gewebelehre," 1888, p. 579.

‡ Satterthwaite's "Histology," p. 421.

* Read before the American Ophthalmological Society at a special meeting held in Washington, September 19, 1888.

Stevens in his paper read before the New York Neurological Society in April, 1886. The tendon was button-holed at its center, and divided both ways until its attachment to the sclera was entirely severed, and then, if necessary, it was further freed from its attachments at either side until the heterophoria was corrected. I always aimed at a slight overcorrection and generally hit the mark. But in three cases there was too great an overcorrection and I had to do the operation which I had seen Dr. Stevens do for readjustment.

Nearly all the patients operated upon were more or less benefited—some only temporarily, some apparently permanently. In only one case had I reason to regret that I had operated, and that was a case in which, having cut both externi, I got an overeffect after the second tenotomy and had to readjust the muscle. The patient has since complained of diplopia on looking far to the right or the left. I have seen a case of irremediable diplopia produced by tenotomy, but I think the operation performed must have been like the old one for squint. The diplopia came on after such an operation by a western ophthalmologist, and Dr. Stevens had failed to remedy it by nineteen subsequent operations, according to the patient's statement, so that I thought the case might properly be set down as incapable of cure. I think there is little if any danger of diplopia following an operation done after Stevens's method. The operation should always be done under cocaine and the effect produced should be measured at intervals during the operation, and the surgeon should be ready to stop cutting when he has got just enough effect. Three of my tenotomies were done under ether or chloroform—two in the case of a child, and one in the case of a man whose continued semi-convulsions prevented him from keeping still enough for a delicate operation upon the eye.

Four of the patients operated upon were epileptics. The epilepsy was not cured by the operation in any case, though the fits were temporarily suspended in one case. In another case the fits were favorably modified, although the epilepsy was organic; in a third case there was temporary improvement, but subsequently the patient was worse than ever. In the fourth case the fits had been suspended for over six months, and the operation was done more for the relief of asthenopia than for epilepsy, and with very good result.

Two of the patients were the subjects of chorea. One of them, a child, six years and nine months old, had both externi cut under ether, to correct a divergence which occurred on his attempting to fix, and which seemed to interfere with the comfortable use of his eyes. He seemed to have derived a considerable amount of benefit from the tenotomies. His mother was sure that he "walked better and looked better." He was also more quiet. The other, a girl of twenty-six, had both externi cut, and, when orthophoria was produced, reported that she was much improved.

There certainly can be no objection to restoring the proper balance of the ocular muscles, when it has been lost, in cases of epilepsy and chorea, but, judging from my *personal* experience, it does not cure either disease. Aside from the cure of the disease, however, enough good results in relieving asthenopic symptoms to justify the procedure.

One or two hysterical patients were operated upon at Dr. E. C. Seguin's suggestion with surprisingly good results. One gentleman, a civil and mining engineer from the West, had come to Dr. Seguin with a diagnosis of "incurable spinal disease." Dr. Seguin found "spinal irritation" of extreme degree. He had been unfitted for business by "semi-periodical paroxysms of excruciating pain in which he made contortions, semi-involuntary, which had been termed convulsions." I found him in one of these attacks when I went to his room prepared to operate upon one of his interni. I sat with him over an hour, during which the agony and the plaintive cries and the apparent convulsions continued without remission, the patient constantly writhing in the most intense pain, until Dr. Seguin arrived and we gave him chloroform and divided the tendon. From that time to the present, so far as I can learn, he has had but one attack and that a very mild one, and after sufficient physical abuse to account for a recurrence.

Another gentleman who suffered from attacks which Dr. Seguin thought were hysterical was much relieved by the operation.

A physician who had five or six years before been subject to frequent attacks simulating *petit mal*, and who now had developed blepharo-facial spasm with asthenopia, was operated upon, first by Dr. Agnew and afterward by myself, with some relief of his asthenopia, but none of his nervous disorder.

One man, who had been an inmate of an insane asylum and who had sailed around Cape Horn for the rest it would afford his nervous system and his eyes, had an internus cut by me, but without relief.

But the majority of the cases operated upon and relieved were cases of headache, varying in degree, character, and location. It would lengthen out this paper beyond all reasonable limits were I to go on commenting on the cases.

I have written them out with some care, and hope to have them printed in their completeness for reference for those who wish to know all about them. But I shall read here only brief notes of each one, unless the society wishes otherwise.

I may, before proceeding to read my cases, be allowed to formulate my present opinions in regard to tenotomy for heterophoria:

1. No person should have a tenotomy performed simply and solely because he is the subject of heterophoria; that is, unless some annoying symptom, local or general, is present that *may* be due to the want of harmony in the action of his ocular muscles. There must be a reason for the operation in addition to the existence of the condition to be corrected.

2. Very slight degrees of heterophoria may and should be corrected where troublesome symptoms exist which may be due to the too great use of nervous force in co-ordinating the eyes.

3. It is well that all other means that afford any prospect of relief should be tried before resorting to a tenotomy,

although no time should be lost by unnecessary dilatory treatment.

4. Tenotomies for the correction of heterophoria should always be performed under cocaine, so that the effect of the operation may be accurately measured and properly limited.

5. In judiciously selected cases, where the operation is properly performed, the average results will be quite as satisfactory as the results of most other surgical operations.

### CASES OF EPILEPSY.

CASE I.—Mrs. B. A. H., aged forty-seven, was referred to me by Professor M. Allen Starr, M. D., at the New York Polyclinic, October 19, 1887. She had been subject to epilepsy for many years, the attacks occurring with varying frequency and severity. Dr. Starr had diagnosticated hypermetropia and hyperphoria, and desired that the patient might have the benefit of their correction.

Upon examination I found:

R. V. = $\frac{20}{20}$; Hm. $\frac{1}{24}$. L. V. = $\frac{20}{30}$ +; Hm. $\frac{1}{20}$. Hyperphoria, R. 2°. No esophoria or exophoria. Fundus normal.

On November 3, 1887, I performed a tenotomy of the right superior rectus, and two pairs of glasses were prescribed—one correcting the hypermetropia, to be worn constantly for distant vision, and a stronger pair for near work, taking into account the patient's presbyopia. She remained free from epileptic seizures for several weeks after the operation and then relapsed and was as bad as before. Another examination showed a recurrence of the hyperphoria of the same eye and in about the same amount as before the tenotomy. This I corrected by dividing the inferior rectus of the left eye. Again the fits were suspended for several weeks, but then returned and were quite as frequent and as severe as before any operation had been done. Several subsequent testings showed a condition of orthophoria, so that no indications existed for further operative interference. The patient was heard from about a year later, when she was said to be no better, but, if anything, worse.

CASE II.—C. W. B., aged sixteen, American, reported at my office, September 14, 1887, with a letter from Professor W. S. Kendrick, M. D., of Atlanta, Ga. He had been an epileptic since the age of three years and a half. No cause was known. The fits have occurred as often as twenty-five in twenty-four hours. They last from a few seconds to a minute or two. He is said never to have bitten his tongue and ordinarily does not froth at the mouth. He is as bright as ever after an attack, when not under the influence of bromides. Three or four years ago he had no fits for a period of over six months. Master B. had just recovered from an attack when he came to my office, and, being also pretty thoroughly brominized, was so stupid that I examined his eyes with great difficulty. Both eyes had vision $\frac{20}{20}$ and were emmetropic. No hyperphoria, esophoria 2°, abduction 6°, adduction 12°. Atropine developed hypermetropia 1 D. each eye, and esophoria 12°. I referred him to Dr. E. C. Seguin for examination and got the following reply:

"Your patient has organic epilepsy, as is shown by the presence of remains of infantile hemiplegia (small right hand and short right leg; attacks beginning on the right side). Consequently it is clear that nothing can cure him. The tenotomy may be useful as a help, removing one strain on the nervous system. I should advise it."

*September 15th.*—Esophoria 10°. I now placed the right eye under cocaine and divided the internus, thus correcting the esophoria.

*17th.*—Esophoria 3°, abduction 10°, adduction 18°.

The patient soon after returned to his home and I did not hear from him until April 2, 1888, when Dr. W. S. Kendrick wrote me as follows:

"C. W. B. was not very much improved by the tenotomy. His mind is quite active and his attacks somewhat modified. Of course he will never be well, but we only hoped for some amelioration of the attacks, which has, in a measure, been attained."

CASE III.—Samuel Q. B., aged seventeen, American, came to me on September 15, 1887, with the following letter from Dr. Seguin:

"The bearer, young Mr. B., has had an occasional attack of nocturnal epilepsy (?) in the last four months. Five years ago I apparently cured him of similar attacks, and he had no relapse for four years. He has had no bromides or other medicines for two months. His last attack occurred in the night of the 10th inst. I think I find astigmatism. Will you kindly examine his eyes fully and let me know the result?"

Upon examination I found:

R. V. = $\frac{20}{30}$ +; $\frac{20}{15}$ with + 0·75 D. cyl. ax. 90°. L. V. = $\frac{20}{30}$ +; $\frac{20}{15}$ with + 0·75 D. sph. Hyperphoria R. 1°, esophoria 1°, abduction 5°, adduction 8°.

Ophthalmoscopically, no lesion.

Under homatropine I found R. V. = $\frac{20}{40}$; $\frac{20}{15}$ with + 0·75 D. s. + 0·75 D. c. ax. 90° L. V. = $\frac{20}{100}$; $\frac{20}{15}$ with + 1·75 D. S. No hyperphoria, esophoria 2°, abduction 4°, adduction 8°. September 16th, esophoria 3°. Ordered glasses Rt. + 0·50 D. s. + 0·75 D. cyl. ax. 90° prism 1° base out. Lft. + 1·25 D. s. prism 1° base out. April 10, 1888, has not been especially benefited by the glasses. The attacks now occur every night. He is nervous and jerks all over for a few moments and then the convulsions confine themselves to his right arm. These spasms continue a minute or two. He seldom loses consciousness, the last time being three or four weeks ago. Tested to-day.

R. V. = $\frac{20}{15}$ with + 0·75 D. s. + 0·75 D. c. ax. 90°. L. V. = $\frac{20}{15}$ with + 0·75 D. s. + 0·50 D. c. ax. 180°.

No hyperphoria, esophoria 3°, in accommodation, none. Abduction 2°, adduction 14°.

*April 12th.*—Abduction 3°, adduction 14°.

*13th.*—Esophoria 3°, adduction 17°.

*14th.*—Esophoria 3°, adduction 18°.

*16th.*—Adduction 21°.

*19th.*—Adduction 19°.

*23d.*—Adduction 19°, abduction 4°, esophoria 2°.

*24th.*—Adduction 19°, abduction 3°, esophoria 5°.

*26th.*—Abduction 3°, adduction 19°, esophoria 3°.

Under cocaine I divided the right internus, leaving orthophoria with abduction 9°.

*27th.*—Esophoria 1°, abduction 6°, adduction 21°.

*28th.*—Esophoria 5°, abduction 4°, adduction 23°.

*May 1st.*—Esophoria 2°, exophoria in accommodation 2°, no hyperphoria.

R. V. = $\frac{20}{15}$ with + 1·50 D. S.

L. V. = $\frac{20}{15}$ with + 1·25 D. S.

*3d.*—Esophoria 4°, abduction 3°, adduction 22°. The left eye was now placed under cocaine, and just before operating there was esophoria 2°, and abduction 5°. I divided the left internus, leaving orthophoria with abduction 9°.

*4th.*—Esophoria 1°, abduction 8°, adduction 19°. Ordered glasses without prisms.

*8th.*—Esophoria ½°, abduction 6°.

*24th.*—The patient says he seemed to be considerably improved until last Monday, since which he has been worse than ever, having had four or five bad attacks every night. He is now under the influence of the bromides.

His muscular condition is orthophoria with abduction 6°. I gave him a wash for a slight conjunctivitis he had developed, and he went to his distant home.

*October, 1888.*—When last heard from at end of June, young B. had more attacks than ever before—several every night, in spite of treatment by bromides and tonics. After a careful consideration of the nature of the seizures and their resistance to ordinary treatment, I am strongly inclined to consider them (as I did those "cured" in 1882) of hysterical nature.—E. C. S.

Case IV.—P. J. M., aged twenty-six, American, came with a letter to Dr. Agnew from Dr. W. R. Pryor, January 2, 1888:

"Mr. M. has had several attacks of a true epileptic character; but one which he has recently had leads me to believe that possibly some of his trouble comes from errors in the eyes. Therefore I send him to you. He had a chancre six years ago. His first epileptic attack was on September 10, 1887. His loss of consciousness was complete. His second attack was in October last, beginning as weakness in left leg, then left hand, and general loss of nervous sensation. Muscular action all right. Tendon reflexes all exaggerated. Ankle clonus not marked. Co-ordination perfect. He is taking hydrarg. iodid., gr. $\frac{1}{4}$ t. i. d.; potas. iodid., gr. xxx t. i. d.; and potas. bromid., gr. xxx at bedtime. Please let me know the result of your examination."

Has trouble when he reads. It brings on a tired feeling, as though he was going to have an epileptic attack, not so much in eyes as head. Four years ago Dr. Knapp treated him for catarrh of the eyes. Being myopic, he wears glasses for distant vision, but reads without. Has some twitching of his lower lids.

R. V. = $\frac{20}{100}$; $\frac{20}{15}$ with − 1·75 D.

L. V. = $\frac{20}{200}$; $\frac{20}{15}$ with − 2·25 D.

*February 3d.*—Hyperphoria L. $\frac{1}{4}$°, esophoria 2°, none in accommodation. Abduction 6°, adduction 25°, sursumduction R. 2°, L. 2°. Ophth. myopia 2 D. both. No lesion.

*4th.*—Under atropine the vision and refraction remain unchanged.

Hyperphoria R. 1°, esophoria 2° to 3°, abduction 8°.

*6th.*—Esophoria 1° to 2°, abduction 8°, adduction 20°.

Dr. Agnew communicated with Dr. Pryor in regard to Mr. M., and he did not return until July 26th.

Examination then showed:

R. V. = $\frac{20}{15}$ with − 1·75 D.; L. V. = $\frac{20}{15}$ with − 2 D.

No hyperphoria, esophoria 3° to 4°, exophoria in accommodation 4°. Sursumduction R. 2°, L. 2°, abduction 5°, adduction 32°. He complained that reading caused him to have vertigo.

*July 27th.*—If he reads a few minutes there is a slight pain through his temples, and upon continuing to read, vertigo comes on. He can sometimes read for ten minutes without vertigo.

Esophoria 3° at 1′. Ordered prisms R. 1°, L. 2°, base out; these having enabled him to read fifteen minutes in the office without vertigo.

*August 7th.*—Esophoria, with or without correction of refraction, 3° to 4°; abduction 4° to 5°, adduction 30°. He reports that he now reads with more difficulty than ever before.

*Tenotomy of right internus*, leaving esophoria $\frac{1}{2}$°, with abduction 10°. On the 8th, 9th, and 10th his esophoria was 2° and his abduction 8°. He says he "gets along with less uncertainty," and that he "walked more yesterday than he had in any day for several months."

*11th.*—Says he does not get about with the same certainty to-day. Esophoria 2° to 3°, abduction 8°.

*13th.*—Esophoria 2°, abduction 8°.

*17th.*—Esophoria and abduction unchanged. Read twenty-five or thirty minutes this morning with no pain other than the headache he got up with. He has vertigo just about the same as before the operation. Dr. Pryor has diagnosticated "syphilitic endarteritis of the right middle cerebral artery." The diagnosis has been confirmed by Dr. E. G. Janeway.

*24th.*—Esophoria 2°, abduction 7°, adduction 24°.

*30th.*—The patient says he can read much better than before the operation, but not so well as before he had any head trouble. Writing gives him more trouble than reading.

*September 15th.*—Esophoria $\frac{1}{2}$°, exophoria in accommodation 2°, abduction 8°. The patient says he can read much better than before the operation and, on the whole, considers himself very much benefited.

*October 9th.*—Esophoria 1°, abduction 6°. Patient can read much better than when here last, and considers himself greatly improved.

### Cases of Chorea.

Case V.—Jack S., aged six years and nine months, was brought to me, April 9, 1887, with a letter from Dr. E. C. Seguin, who said:

"Mr. and Mrs. S. bring you their little boy, Jack, whose chorea, not due to organic disease I believe, has resisted a thorough arsenical treatment with rest tried last fall. He has never had converging power, and there is a probability that this insufficiency and consequent strain is the chief cause of the chorea. Some doubts have been expressed as to his acuteness of vision, but I think he sees fairly well. You will notice that his mother has the same ocular defect to a less degree. Will you examine the eyes thoroughly and undertake the operation? The parents understand that not too much is expected from the operation. The child takes no medicine now. His mother says he never walked well, and did not walk at all until he was over two years old. He was circumcised a year ago, but it had no effect on the chorea."

It was somewhat difficult to test and examine Jack, as his eyes rolled about on attempting to fix, and were altogether uncontrollable. With the right eye he counted fingers correctly at three feet. With the left I could not get him to count fingers at all. Homatropine was dropped into both eyes to facilitate an ophthalmoscopic examination. It was found that there was atrophy of both optic nerves, the left being the whiter of the two.

Dr. Seguin gave the child ether and I divided the left externus.

*April 29th.*—His mother says he "talks better and walks better" since the operation.

*May 19th.*—Tenotomy of right externus under ether.

*October, 1888.*—The final result in this case was very satisfactory as regards the motor disorder. The chorea entirely passed away, leaving a slight atonic condition of hands, and some uncertainty in walking. This I believe was present from the start and was obscured by the chorea. It should be added that the child had systematic treatment by rest, arsenic, and gymnastics, besides the ocular treatment. Vision not improved, though fixation is better done.—E. C. S.

Case VI.—Miss Annie W., aged twenty-six, came to consult me, on March 29, 1887, on account of chorea with asthenopia. Her eyes had troubled her "quite some time." She had "quite a good deal" of pain in them, and black spots floating before them all the time. There is a heavy feeling about the eyes constantly, and a "miserable feeling down the back of the head and neck." She used to think she would "go crazy" with it. She has been nervous and run down for over a year, and most of that time she has been under the treatment of various physicians for general chorea. Catamenia normal, bowels regular, eats well and sleeps well.

R. V. = $\frac{20}{15}$; Hm. $\frac{1}{72}$. L. V. = $\frac{20}{15}$; Hm. $\frac{1}{60}$. No hyperphoria. Exophoria 5°, in accommodation 5° to 9°. Abduction 10°, adduction 10°. Ophthalmoscopic examination shows physiological excavation and venous pulsation, both eyes, but no lesion.

*April 5th.*—Under atropine, R. V. = $\frac{20}{10}$ with + $\frac{1}{42}$. L. V. = $\frac{20}{10}$ with + $\frac{1}{48}$.

*14th.*—Exophoria 3°, abduction 10°.

V. = $\frac{20}{10}$ each; no Hm.

*Tenotomy of left externus*, leaving orthophoria with abduction 4°.

*16th.*—Abduction 8°. Has been more quiet since the operation.

*25th.*—Abduction 10°, adduction 8°, exophoria 3°.

*May 16th.*—Exophoria 3° to 5°, abduction 9°, adduction 14°, hyperphoria L. 1°.

*Tenotomy of right externus*, leaving orthophoria.

*18th.*—Much less nervous and back of head and neck better. Abduction 8°, exophoria 2°, no hyperphoria.

*August 10th.*—Was quite a good deal better before the warm weather. Has the chorea "not nearly so badly," and has had very little headache. Orthophoria, abduction 8°, adduction 10°. Put on increasing reading tasks.

*September 10th.*—Chorea was better all summer, but has been pretty bad for the last week.

R. V. = $\frac{20}{10}$; made clearer by 0·25 D. cyl. ax. 180°.

L. V. = $\frac{20}{10}$; Hm. 0·25 D. Sph.

Hyperphoria L. 2°. Exophoria 2°. Ordered R. + 0·25 D. cyl. ax. 180°. L. + 0·25 D. s. prism $1\frac{1}{2}$° base down, for all the time.

*December 6th.*—Chorea decidedly improved. Exophoria 3°, in accommodation 8°, abduction 9°, adduction 5°, hyperphoria L. 1°. Sursumduction R. 0°, L. 1°. Put upon prism gymnastics.

*January 7, 1888.*—The patient writes that she overcomes prisms 50° base out.

*March 19th.*—Orthophoria. Is much improved.

## HYSTERICAL CASES.

CASE VII.—E. S. A., aged forty-one, civil engineer, came to me on May 8, 1887, with the following letter from Dr. E. C. Seguin: "This note will be handed you by Mr. A., who came to me from the West a few days ago with a diagnosis of incurable 'spinal disease.' I find that he has spinal irritation of extreme degree, most developed in sacral region, but also marked in occipito-cervical region. He has quasi-periodical paroxysms of excruciating spinal pain in which he makes contortions which have been termed 'convulsions.' He has suffered much from using his eyes, and a partial examination made some time ago revealed some faults. I hope that many of Mr. A.'s symptoms are due to eye-strain, and shall not give him much treatment until after you have had a fair chance at his eyes."

*May 9, 1887.*—R. V. = $\frac{20}{200}$; $\frac{20}{50}$ with + $\frac{1}{42}$ c. ax. 180° — $\frac{1}{15}$ c. ax. 90°. L. V. = $\frac{20}{20}$; $\frac{20}{15}$ with — $\frac{1}{60}$.

Hyperphoria 0°, esophoria 3°, in accommodation 3°, abduction 2°, adduction 9°, and sursumduction R. 0°, L. 0°.

Ophthalmoscopic examination shows congenital cataract in right, no lesion of left.

*11th.*—Under atropine:

R. V. = $\frac{20}{40}$ with + $\frac{1}{24}$ c. ax. 15° — $\frac{1}{15}$ c. ax. 105°.

L. V. = $\frac{20}{50}$; $\frac{20}{15}$ with + $\frac{1}{60}$ s. + $\frac{1}{72}$ c. ax. 145°.

Esophoria 3°, abduction 1°, adduction 9°.

*12th.*—Tenotomy of right internus under cocaine and chloroform after three hours of fearful semi-convulsions, writhing with pain referred more especially to "small of back," which Dr. Seguin had failed to relieve by hypodermic medication.

*13th.*—Patient more comfortable to-day than for years.

*14th.*—Orthophoria, abduction 8°, adduction 9°. He has diplopia on looking to the left.

*21st.*—Ordered glasses. R. + $\frac{1}{42}$ c. axis 5° — $\frac{1}{15}$ c. ax. 95°. L. + $\frac{1}{60}$ s.

The state of orthophoria remains.

*September 21st.*—Orthophoria, abduction 8°. Chalazion right lower lid, excised. He had only one slight attack of semi-convulsions since the tenotomy, and has attended to business as before the attacks began.

*October, 1888.*—The suffering of this patient in his attacks was manifested in such an extraordinary way as to suggest exaggeration or self-delusion. He had a nurse with him whose duty it was to give him chloroform whenever an attack occurred. Hypodermic injections of $\frac{1}{50}$ grain of hyoscyamine undoubtedly controlled the attacks in my hands. He was given strychnine in large doses for several weeks and went away perfectly well, except that the lumbar spine was still tender. In a day after the tenotomy, the patient expressed himself as feeling better than for two years, saying that almost immediately after the operation "something gave way" or relaxed in the spinal region. After a severe piece of railroading, a short relapse took place in September, 1887, relieved by medical treatment, and I heard in June last that the attacks of Mr. A. had once more returned, under the observation of a physician in Colorado.—E. C. S.

CASE VIII.—E. S. K., aged thirty-five, came to me, October 11, 1887, with a letter from Dr. Seguin, who wrote:

"I have treated Mr. K. for general symptoms of cerebral fatigue and peculiar attacks which I trust are hysterical. He also has occasional occipital headaches. I find out to-day, by cross-examination, that for several years moving objects—such as scenery out of a car-window, vehicles in a crowded street, revolving machinery, etc.—have caused distress in the head, nervousness, and almost dizziness. He has instinctively avoided such sights for two years or more. I think that this justifies an examination of Mr. K.'s ocular muscles."

Examination showed:

R. V. = $\frac{20}{20}$; $\frac{20}{15}$ with — 0·25 D. cyl. axis 90°.

L. V. = $\frac{20}{20}$; $\frac{20}{15}$ with — 0·25 D. cyl. axis 90°.

No hyperphoria, esophoria 2° to 3°, abduction 5°, adduction 20°.

*October 13th.*—Under homatropine:

R. V. = $\frac{20}{40}$; $\frac{20}{15}$ with + 0·50 D. s. + 0·50 D. cyl. axis 180°.

L. V. = $\frac{20}{70}$; $\frac{20}{15}$ with + 0·75 D. s. + 0·50 D. cyl. axis 180°.

Esophoria, 4° to 5°.

*18th.*—Pupils normal.

R. V. = $\frac{20}{15}$ + with + 0·25 D. cyl. axis 180°.

L. V. = $\frac{20}{15}$ + with + 0·25 D. cyl. axis 180°.

Esophoria 2° to 3°, abduction 5°.

*19th.*—I cut the right internus in presence of Dr. Agnew, Dr. Townsend, Dr. Eliot, and Dr. J. B Knapp, leaving his eyes in a condition of orthophoria.

*20th.*—The patient reports that he slept well last night, and "feels like a fighting cock."

*28th.*—Orthophoria, abduction 7°. The patient states that he felt well until he went to work at his desk day before yesterday; then when he went home at night he had a tired head, but not the old headache.

*December 21st.*—Esophoria 1°, abduction 7°. The improvement seems to be permanent.

## BLEPHARO-FACIAL SPASM WITH ASTHENOPIA.

CASE IX.—T. J. C., aged thirty-two, physician, came to Dr. Agnew, May 13, 1887. He stated that from the age of twenty-two to the age of twenty-seven he had had frequent attacks simulating *petit mal*. Sometimes while going about he would hear a sound like a thunder-clap, sometimes in both ears simultaneously, sometimes in one ear after the other, and sometimes in one ear only. These attacks would often be accompanied by no other symptoms. Sometimes a feeling of "rush of blood to the head," with vertigo and a feeling as though he would fall, but he never fell. These attacks sometimes came half a dozen times a day, and sometimes not for a week, seeming to depend upon the condition of his digestion. He had a great deal of sick headache, usually coming on in the afternoon and lasting until he went to sleep at night. He slept badly, ate moderately, and has a tendency to constipation. He has had an occasional chill; never venereal disease.

His eyes were perfect, so far as he knows, up to seven or eight years ago, when he first noticed blurring of vision in reading. He consulted a New Orleans oculist, who gave him "slight myopic glasses." Seven or eight months later, as his eyes still troubled him, he had them examined under atropine, and got an order for "hypermetropic glasses." He has had one or two changes in his glasses since, but has never gotten along satisfactorily. He has had frequent attacks of conjunctivitis, and has for several years been subject to spasm of the eyelids and cheeks, which, he says, is largely *voluntary*, or under his control. He uses no tobacco, and alcohol only very moderately.

R. V. = $\frac{20}{20}$ + ; Hm. $\frac{1}{24}$.

L. V. = $\frac{20}{20}$ + ; Hm. $\frac{1}{20}$.

Esophoria 8°, none in acc., sursumduct. R. 0°, L. 0°, abduction 4°, adduction 19°. He is wearing Right + $\frac{1}{36}$. Left + $\frac{1}{24}$.

The ophthalmoscope shows no lesion.

*May 14th.*—Dr. Agnew divided what he estimated to be nine tenths of the left internus, leaving esophoria 1°, abduction 8°, and adduction 15°.

*15th.*—Esophoria 3° to 4°, abduction 8°. Changed glass over right eye to + $\frac{1}{24}$.

*19th.*—Esophoria 5°, abduction 7°.

He does not yet appreciate any improvement from the operation.

*22d.*—Esophoria 3°, abduction 7°.

*June 21st.*—Extracts from letter of this date from Dr. J. L. Minor: "He was at first largely relieved, but is now suffering as much as ever. I inclose the results of my testings on June 3, 1886, and on June 2, 1887.

"*June, 1886*, + 1·50 D. S. V. = $\frac{20}{20}$ + o. u. Without glasses at 20′ with vert. dipl. 2° convergence, adduction 15°, and abduction 7°. With glasses at 20′ with vert. dipl. equilibrium, abduction 6°, and adduction 20°. At 14″, vertical dipl. 2° convergence, abduction 22°, adduction 40°.

"*June, 1887.*—R. and V. unchanged. Without glasses at 20′, vert. dipl. 3° convergence, adduction 30°, and abduction 4°. At 20′, with glasses, vert. dipl. 2° convergence, abduction 4°, adduction 30°. With glasses at 14″, vert. dipl. equilibrium, abduction 20°, adduction 40°."

*May 14, 1888.*—Dr. C. returned to me, saying that he had not been permanently improved by the tenotomy. Esophoria 4°, abduction 4°, adduction 24°.

*15th.*—Adduction 24°.

*16th.*—Adduction 25°.

*17th.*—Tenotomy of right internus, leaving exophoria 2°, abduction 10°.

*20th.*—Exophoria 10°, abduction 18°. I now readjusted the cut tendon by a stitch, and got homonymous diplopia 6°. There was some reaction following the readjustment—far more than I have seen in any other case of the kind. I had to give him a hypodermic of morphine, and apply iced cloths and atropine, and leeches to the temple.

*23d.*—The reaction has passed off, and the patient comes to the office. Esophoria 1° to 2°, abduction 8°.

*24th.*—With his glasses, orthophoria at 20′ and in accommodation. Abduction 8°.

*June 2d.*—Esophoria 1°, abduction 5°.

The blepharo-facial spasms seem unaffected by the operation, but the patient can already read with more comfort than before.

### INSANITY.

Case X.—T. M. M., aged thirty, was referred to me, at the Manhattan Eye and Ear Hospital, by Dr. Seguin on October 31 1887.

Mr. M., who was a mechanical engineer and whose business involved the most trying use of his eyes, had completely broken down some years before in his eyes and in his nervous system. He was unable to use his eyes for more than a minute or two at a time, and his ocular disability wholly unfitted him for professional work. He had, in consequence, developed melancholia, and had attempted suicide. He had been kept for some time in an insane asylum by his friends, and after his discharge had been sent on a voyage round Cape Horn. He returned in better condition mentally, but still could not resume work on account of his eyes.

Examination showed:

R. V. = $\frac{20}{15}$; Hm. $\frac{1}{60}$. L. V. = $\frac{20}{15}$; Hm. $\frac{1}{48}$.

Esophoria 1°, in acc. 0°, abduction 10°, adduction 18°, sursumduction R. 4°, L. 5°.

Ophthalmoscopically, normal.

*November 4th.*—Under atropine:

R. V. = $\frac{20}{15}$ with + $\frac{1}{72}$. L. V. = $\frac{20}{15}$ with + $\frac{1}{60}$ cyl. ax. 90°.

Esophoria 3°.

*11th.*—Esophoria 1°.

*18th.*—Esophoria 20°, in acc. 10°.

R. V. = $\frac{20}{15}$; Hm. 0·50 D. L. V. = $\frac{20}{20}$ + ; $\frac{20}{15}$ with + 0·50 D. cyl. ax. 90°.

The right internus was now divided, leaving a condition of orthophoria, or of slight esophoria.

*December 1st.*—Esophoria 2°, in acc. 0°, abduction 7°, adduction 35°, sursumduction R. 1°, L. 1°.

*31st.*—Esophoria 1°, abduction 10°. Ordered R. + 0·50 D. L. + 0·50 D. cyl. axis 90° for constant use.

The patient was kept under observation for some time, and, although placed upon reading tasks which he failed to perform, he finally disappeared without having been especially benefited so far as we could tell.

(*To be continued.*)

# THE ÆTIOLOGY AND TREATMENT OF ACUTE ABSCESSES.

By H. BOYLE RUNNALLS, M. R. C. S.,
BEDFORD, PA.

It has always struck me with what an off-hand manner these painful conditions are described by our various surgical authorities, and how their styles of treatment resemble each other. It was therefore with great pleasure that I read the almost exhaustive article of Dr. Hubbard upon the subject which appeared in a recent issue of this journal, and a desire to state my observations upon some facts which he has not thoroughly explained must be my excuse for troubling you.

Dr. Hubbard states in his article that "no attempt is made to explain why an inflammation at one time results in suppuration and at another disappears and leaves no trace, or why in one instance the process of suppuration is rapid and in another slow."

For a long time it puzzled me why two such opposite results should terminate from apparently the same primary condition, and I began to look about for some like occurrence in the denser structures. One, first of all, has to consider the cause of the interference in the circulation, for of course it must be granted that an abscess—"*that is, the accumulation of pus*"—is disintegrated tissue, resulting from the blood-supply to that tissue when in a healthy state being cut off. If the blood-supply has not been completely cut off, as is so frequently seen in a bruise or a black eye, the escaped corpuscles are quickly absorbed and new blood-channels take the place of the damaged ones; but if any part of the body becomes deprived of its food, then death follows with the instantaneous presence of other life cells, which may be called disease germs, but they are, all the same, very important factors in the economy of life. Dr. Hubbard might have taken a step further back and asked why the same outside influence should at one time cause inflammation and at another prove innocuous. One has to consider here, then, the condition of the subject at the time the outside influence was brought to bear upon him.

In my opinion, therefore, the presence of suppuration demonstrates that complete separation has taken place between the healthy and damaged tissue. His second question is more easily answered, I think, or conjectured at. The progress of suppuration in any tissue depends upon the density of the surrounding structures, and also upon the position of the body where it has displayed itself. If it occurs where the surrounding tissues are subject to much movement, then you might necessarily expect the process of suppuration would go on more rapidly than in a part which is not subject to much muscular contraction. This, to me, shows that the first and all-important factor in the treatment of an abscess is "rest." Then, again, never incise any tissue until you are sure of the presence of pus. When you are sure that pus is present, then provide an outlet varying in size according to the position and capacity of the abscess cavity. If the position of the abscess is such that it is difficult for it to drain itself, then provide a free outlet, and *vice versa.*

In my opinion, it is far better to make an early incision when pus has displayed itself, than to wait for it to come to the surface, as this only produces the loss of more tissue, by the accompanying pressure, as is so frequently seen in "periosteal abscess" causing necrosis.

After you feel sure that complete strangulation of any tissue has occurred which must result in disintegration of the strangulated part, then anything that hastens the process of separation and repair must be grasped at, and poultices, in my opinion, are valuable adjuncts in the treatment, inasmuch as they dilate the blood-vessels and increase the blood-supply. After this, I believe, judging from my own experience and observation, it is not necessary to do more; but of course this depends a great deal as to whether the sufferer is surrounded by pure or vitiated air. To sum up, rest, early incision, cleanliness, and the avoidance of any irritation whatever, are safe rules to follow in the treatment of an acute abscess.

# WIRING THE OLECRANON PROCESS.

By THOMAS H. MANLEY, M. D.,
VISITING SURGEON TO THE HARLEM HOSPITAL.

As this method of dealing with the broken articular end of the ulna at the elbow is on trial, and from my experience yields much better results than the older method of fixing the joint either in the flexed or extended position, and with bandages endeavoring to secure as perfect coaptation as possible, I report another successful case, my first having been reported in the "Pittsburgh Medical Review."

John T., a Norwegian, single, painter, aged thirty-three years, was brought into the Harlem Hospital, August 1, 1887, with a compound fracture of the right olecranon process of the ulna, Colles's fracture of the left arm, and fracture of the frontal bone, extending into the orbit of the same side. All the above-named injuries were caused by a fall from the elevated-railroad structure while painting. It will be seen that this man's anatomy was pretty well smashed, but, as we were concerned with the injury to the elbow, I shall not describe the others.

The fracture through the olecranon was transversely through the greater sigmoid cavity, quite close to the diaphyseal line of the shaft of the ulna. The integument and connective tissue in the vicinity of the opening into the joint were much contused and lacerated. Blood and synovial fluid blended together and glazed the surface of the wounded parts.

On admission, the parts were thoroughly cleansed and irrigated with mercuric-chloride solution, well dusted with iodoform, and wrapped up in heavy folds of antiseptic gauze.

The following day, when he had well recovered from the effects of shock, the dressings were removed, and the parts again well irrigated; and now both ends of the broken bone were drilled, a piece of strong patella wire was carried through the perforations made by the drill and well twisted together, the twisted ends being cut short and hammered over on to the bone. Horse-hair drains were used, and the limb was again covered with the Gamgee absorbent dressings. A right-angled iron brace was now carried from the hand to the shoulder, and the whole covered with a plaster-of-Paris bandage, except over the elbow joint, which was not included, as we wished to have convenient access to it for purposes of inspection and dressing.

We were very apprehensive about the result, as the patient was covered with a syphilitic eruption, and did not seem of a very vigorous physique. He complained little of pain when he recovered from the effects of ether. The dressings were not disturbed for four days. In the mean time he was placed on constitutional treatment with a view of eliminating the venereal taint and building up his strength. On the fifth day the wound was exposed and looked anything but encouraging; the animal ligature had torn or ulcerated out, leaving the ends of the bone quite exposed.

The margins of the wounds were swollen and exuded purulent matter. We attributed this unpromising state of the soft tissues to the taint in his system, and hoped that, as soon as his condition improved, the wound might take on healthy action. His general condition, however, remained fair, there being very little pain and hardly any fever. After a week's time healthy granulations sprung up, and the process of healing continued till the edges of the wound were firmly united, which was in about four weeks' time. At the end of the fifth week the plaster cast was removed, when it was found that there was moderate ankylosis, due, no doubt, to inaction of the limb for so long a time, and to the effusion into the joint of inflammatory material, which had become partly organized, and formed fibrous adhesions.

The work of passive motion was now begun, and it gave the patient much pain at first, but after a time he bore it without much difficulty. We took care to bandage the arms from the fingers up after each effort, being cautious to make firm but equable pressure at the elbow, and using care not to do too much each day, fearing that inflammatory action might be lighted up by violence, and being content to gain a little each day.

Just two months from the time of entering the hospital he left with firm union at the point of fracture and able to flex and extend the arm remarkably well for the time since the accident happened.

This case presented many features of interest, which, I think, will justify me in hastily going over them.

At the outset it will be seen that he suffered from many fractures at the same time; that his system was thoroughly saturated with syphilis, which, with its well-known power to derange nutrition and interfere with union of bone, was quickly subdued with large and frequent doses of potash and mercury, and the standard of health raised by stimulants and good food. Then it has been noted that the joint at the elbow was split open by the fall from the railroad structure, so that there was no necessity, as in a simple fracture of the olecranon, of making an opening into the joint with the knife. Here we simply cleansed and brought the bones into apposition and retained them with wire, using antiseptics vigorously, the drainage-tube, and Gamgee packing.

This being the second case of fractured olecranon—one simple and the other compound—which I have wired with good results, I think I am not saying too much when I maintain that the operation has a legitimate place in surgery, and that it should be *the treatment* for a fracture in this situation, with few exceptions.

The operation is simple, requiring no complicated instruments and no unusual manual skill in operating; the only great precaution necessary is to avoid septic trouble by cleanliness and antiseptics.

In my case here reported there was considerable reaction—inflammatory—due to injury to the capsule and soft tissues at the time of accident.

We may get along fairly well with an ankylosed knee, but with a flail-like elbow joint, due to want of union of the bone, or with a motionless, stiff elbow, particularly in the straight position, one might nearly as well be without the arm altogether; hence the necessity of adopting such means of treatment as will insure the most useful limb without adding any danger to life.

I should advise that after the third week of treatment passive motion of the elbow be instituted, and continued gradually until good use of the joint is secured.

I may mention, in conclusion, that I have lately wired several shafts of bone in adults, but with unsatisfactory results; the patella, olecranon, and inferior maxilla being the only bones in which the wire has not caused irritation requiring its removal before ossification was established.

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**The Philadelphia Academy of Surgery.**—The annual meeting will be held on Monday, the 7th inst., at the hall of the College of Physicians. Dr. John B. Roberts is announced to deliver an address on the "Science of Successful Surgery."

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# ANTIPYRINE DURING THE FIRST STAGE OF LABOR.

By J. O. VAN WINKLE, M. D.,
ACTING HOUSE SURGEON, MATERNITY HOSPITAL.

In an article published in this Journal for July 14, 1888, Dr. Egbert H. Grandin, visiting surgeon to the Maternity Hospital, called attention to the use of antipyrine in the first stage of labor. He stated that he had used it for the past year with gratifying results, and that the pains were rendered much less severe, while at the same time the progress of the labor was not interfered with.

In accordance with Dr. Grandin's suggestion, and during his term of service, Dr. T. H. Rockwell, house surgeon at the Maternity Hospital, used it in each case of labor where applicable. The first dose was given when the os was about one third dilated, except in cases where the pains were very severe from the outset, when it was ordered earlier. Antipyrine, gr. xv, and spt. ammon. aromat., ♏ xxx, were administered every two hours during the first stage for three doses. The temperature and the pulse were noted at the time the first dose was administered, and every hour thereafter until dilatation was complete.

In almost every instance the patient said she felt greatly relieved, and this was evident from her behavior. In some cases the patient would fall asleep for an hour or so after the first or second dose. These observations were all the more important since the class of patients delivered in the hospital includes many nationalities and social conditions, conspicuous among them being many Polish Jewesses and Bohemians, who, as a rule, are very restless and demonstrative during confinement, and the effect on these was quite noticeable.

Incidentally it was observed that generally the temperature fell from half a degree to a degree and a half F. The pulse became somewhat more frequent and the respiration slightly increased. Occasionally, if the pulse was rather rapid before administering the drug, it decreased in frequency. Thus an ordinary case taken from the history-book shows:

At 4.45 A. M., patient's temperature was 98·6° F., pulse 100; 5 A. M., patient was given antipyrine, gr. xv, spt. ammon. aromat., ♏ xx; 6 A. M., temperature 98·2°, pulse 68; 7 A. M., temperature 98·2°, pulse 68. Patient was given antipyrine, gr. xv, spt. ammon. aromat., ♏ xxx. 9 A. M., temperature 99°, pulse 64; 10 A. M., temperature 98°, pulse 80.

CASE II.—1 P. M., antipyrine, gr. xv, spt. ammon. aromat., ♏ xxx; 1.20 P. M., temperature 98, pulse 64, respiration 20; 3 P. M., antipyrine, etc., repeated; temperature 97·4°, pulse 66, respiration 19; 4 P. M., temperature 97·4°, pulse 70, respiration 19; 5 P. M., temperature 97·2, pulse 68, respiration 22.

In order to ascertain the effect of antipyrine in decreasing or lessening the duration of labor, comparative statistics were taken where the drug was not and where it was used. Comparing a number of consecutive cases (of primiparæ) where the drug was administered with a similar number of same cases where it was not, we obtain the following data:

*Primiparæ with Antipyrine.*

| | First stage. | | Second stage. | | Operation. |
|---|---|---|---|---|---|
| | Hrs. | min. | Hrs. | min. | |
| | 12 | 20 | | 35 | |
| | 18 | 55 | 1 | 35 | |
| | 8 | 30 | 2 | 40 | Low forceps. |
| | 17 | 30 | | 45 | |
| | 6 | 40 | 2 | 45 | Low forceps. |
| | 16 | 50 | 1 | 40 | |
| | 10 | 45 | 2 | 45 | Low forceps. |
| | 5 | 30 | | 30 | |
| | 17 | 00 | 2 | 10 | Low forceps. |
| | 11 | 55 | | 30 | |
| | 15 | 00 | | 50 | |
| | 10 | 00 | 1 | 35 | |
| | 8 | 00 | 2 | 00 | |
| Aver. | 12 | 13 | 1 | 34 | Forceps, 4. |

*Primiparæ without Antipyrine.*

| | First stage. | | Second stage. | | Operation. |
|---|---|---|---|---|---|
| | Hrs. | min. | Hrs. | min. | |
| | 10 | 00 | 3 | 25 | Low forceps. |
| | 25 | 15 | | 15 | |
| | 9 | 35 | | 10 | |
| | 9 | 00 | 3 | 00 | Low forceps. |
| | 11 | 45 | 1 | 15 | |
| | 20 | 00 | 2 | 35 | |
| | 12 | 40 | 1 | 50 | |
| | 3 | 20 | 1 | 10 | |
| | 15 | 45 | 1 | 20 | |
| | 3 | 05 | 1 | 05 | |
| | 26 | 40 | | 30 | High forceps. |
| | 11 | 25 | 2 | 45 | Low forceps. |
| | 6 | 50 | | 45 | |
| Aver. | 12 | 43 | 1 | 33 | Forceps, 4. |

From the preceding data it is apparent that antipyrine does not increase the duration of labor, but, on the contrary, tends to lessen this stage on an average of about half an hour, while the second stage remains practically the same, and in no case was there any injury done the mother or child.

Thus we see that the results of carefully kept statistics go to substantiate the statement made by Dr. Grandin—namely, that antipyrine very materially lessens the severity of the pains during the first stage without increasing the duration of the labor and without in any way injuring either the mother or child. The drug has never given rise to alarming symptoms, and this immunity is doubtless due to the fact that we have always associated it with a stimulant, and further to the fact that during labor there exists a physiological stimulation of the heart's action.

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# AN INEXPENSIVE CELL FOR GALVANISM.*

By A. H. BUCKMASTER, M. D.,

BROOKLYN.

Up to within a quite recent period the use of electricity in a scientific manner was relegated to the neurologist. The gynæcologist has awakened to the possibilities of this potent agent, and, while there are some who believe they can use the current without a school-book knowledge of electricity, many are giving their earnest attention to the subject. Many are deterred from testing its merits on account of the cost of the necessary paraphernalia, and of this the cost of the cell itself is no small item, and it is for the purpose of showing how a battery may be made at home at a comparatively slight cost that I trespass upon your time this evening. The glass jar is a common fruit-jar, and can be bought in cases of eight dozen at a cost of about four cents a piece. It is only four inches in diameter, so that it may be placed on shelves between the jambs of the windows, etc., without projecting into the room in an unsightly manner. The jar holds a quart of fluid. The cover consists of six discs of pasteboard of two sizes tacked together. The three lower ones fit into the mouth of the jar, and the three upper and larger ones project slightly over the sides. There are two perforations in the cover to permit of the passage of the carbon and zinc. The aperture for the carbon is best made with a chisel, and that for the zinc can readily be made by a hollow punch. The zincs are six inches long, and have a transverse aperture near one end. A thread for a screw passes from the end, so that when a wire is passed through the aperture a few turns make it fast. The cost at wholesale of these zincs is about four cents. The carbons, $5\frac{3}{4} \times 1\frac{7}{8} \times \frac{1}{4}$, cost about six cents. Each should be bored near the top with a bit that is of uniform diameter, to make an aperture for fastening the wire. The exciting fluid is chloride of ammonium in solution, and it is sold in quantities for this purpose at about ten cents a pound. Two to three ounces is enough for each cell. If to this list we add the wire necessary for making the connections, we have all that is required for the construction of the battery.

A battery, to be useful to the gynæcologist, should conform to the following conditions:

1. The electro-motor force should be fairly constant.
2. It should not work on an open circuit.
3. It should be simple in its mechanism, so that the operator may readily provide for any irregularity in its working.

This cell conforms well to these requirements. The verdict of professional electricians to whom I have showed it has been that it would do the work required very well, but that perhaps more surface of carbon might make it more durable. If this should prove to be true, it would be a very simple matter to use two carbon plates with the zinc between them.

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* Presented at a meeting of the Section for Obstetrics and Diseases of Women of the New York Academy of Medicine, November 22, 1888.

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**Erysipelas and Tuberculosis.**—"As the result of experiments, M. Solles concludes that erysipelas retards the evolution of experimental tuberculosis in the guinea-pig; the animals may survive twice as long as when erysipelas is not produced in them. This survival is all the more remarkable since experimental tuberculization in the guinea-pig causes a general tuberculosis which is much more rapid and much more serious than human pulmonary phthisis. The antituberculous action of erysipelas is double: it has a general influence, as shown by the prolongation of life; and it has a local influence limited to the erysipelatous area, causing the induration, ulceration, and lymphatic swelling due to the tubercle to disappear. This localized action, clearly antagonistic to tubercle, is of such a nature, argues M. Solles, as to encourage the search after some parasite which shall have the power of destroying the bacillus tuberculosis."—*Lancet.*

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## HIRSUTIES.

The occurrence of generalized hirsuties in human beings is considered by Darwin as a reversion to the type of the hairy ancestors of the race. Unna has cleverly suggested that it is merely an arrest of development. It is well known, for example, that the fœtus becomes thickly covered with hair. This usually falls off before birth, but it may persist until the child is several weeks old. The new growth of hair is of a totally different type. In hypertrichosis this change of type in the growth of the hair does not take place. Hence the primitive or antenatal type becomes permanent. As there is no standard of hairiness, the terms referring to it are merely relative. What is considered excessive development in one race, individual, or class, may be thought normal in another. There may be a wide range of degree within perfectly natural limits. The subject is of great interest to the dermatologist, especially hypertrichosis occurring in women, constituting a blemish that is peculiarly repulsive when appearing about the face. French women and women of the Hebrew race are afflicted with this unfortunate development rather oftener than others. Max Nordau says, probably with some exaggeration, that the Provençal women generally have beards, mustaches, and whiskers. Facial hypertrichosis among Jewish women is a matter of daily observation. The bridge of hair connecting the eyebrows across the root of the nose is frequently seen in entire families, irrespective of race or nation, transmitted from generation to generation. An efficient remedy exists in the electrolytic current, first suggested by Michel, of the Hôpital St. Louis, and further developed by Hardaway, Fox, and others.

In a paper upon this subject read by Dr. George H. Rohé, of Baltimore, before the recent International Congress, and in the discussion following, there is much that is interesting and suggestive. Hirsuties, whether general or localized, seems to be a hereditary trait, although it may be acquired. Certain neurotic and irritative conditions favor its development. The facial hirsuties of insane women is of the neurotic type. Irritative hypertrichosis frequently appears upon portions of the skin subjected to the constant and long-continued use of irritants. Hirsuties is accompanied by another peculiarity—defective development of the teeth. Especially is this true when the tendency to hairiness is inherited. In several pronounced cases, certain teeth never appeared at all, while others were indicated merely by traces. One boy had six teeth in the upper and four in the lower jaw. A curious pendant to this anomaly occurs in hairless dogs, according to Darwin. It is said these animals always have defective teeth. The history of hirsuties shows that its heredity is always direct, and generally in the male line. It is also true that the hairy character is not always transmitted to the descendants. These apparent exceptions to the laws of heredity in hypertrichosis are not more difficult to account for than exceptions in the matter of malformations and diseases. Pigmented nævi may exist for generations, yet certain members of the family escape. Psoriasis and xanthoma present similar peculiarities.

Our present ignorance of the laws of heredity makes it impossible to explain such deviations. It must be remembered that two factors enter into the production of offspring—the male and the female element. Recent embryological research seems to indicate that these two elements give rise to different germinal layers, the epiblast being chiefly derived from the male element, while the hypoblast and mesoblast are derived from the female pronucleus. This, if established, would explain some of the phenomena of heredity. Abnormities of the epithelial structures would be more likely to be transmitted in the male line, while those of the connective tissue and vascular structures would be received from the female. The fact that hair on the face in women does not appear till puberty or after the menopause does not in any way contradict the views here expressed. Hereditary susceptibility to disease or other peculiarity often appears late in life. The chief difficulty, says Rohé, lies in explaining how the parental influence is exercised in producing similar physical traits in the offspring. In the perfect physiological type the hairy regions are sharply marked and divided from the non hairy. Disorderly growth of hair indicates either coarseness and defective development of the individual or deficiency of sexual differentiation. Hypertrichosis about the limbs, commonly considered a sign of strength, is said, on the contrary, to be associated with constitutional weakness; but this is denied by Rohé, and, we think, with justice. Sir James Paget, examining a patient with a form of tubercular disease, considered the great hairiness of the man's legs corroborative evidence of the scrofulous taint. He remarked that a recruiting officer of large experience had always found the hairy recruits less resistant to exposure and disease.

Although a disorderly growth of hair upon a woman's upper lip does not necessarily coincide with sterility, it very often does. There are curious facts concerning the disappearance of hirsuties upon the establishment of some feminine function, such as menstruation after suppression from unknown causes, or the secretion of milk after parturition. These, says Thin, favor the idea of imperfect sexual differentiation.

## PERITYPHLITIS.

Under this name and others intended to convey more or less distinct conceptions of the essential condition of things, the inflammatory, ulcerative, and gangrenous affections of the vermiform appendix and surrounding parts have, for a number of months past, both in this country and in Europe, been made a subject of much careful investigation and discussion. From the papers that have been read at meetings of medical societies and from the remarks made upon them, a substantial advance of our knowledge ought to take place. One of the most striking statements in connection with perforation of the appendix that we remember to have seen was lately made by both Dr. Biggs and Dr. Prudden, at a meeting of the New York Pathological Society, to the effect that although they had both for years been on the lookout for post-mortem evidence that the lesion was due to the lodgment of a foreign body, they had not found such evidence in a single instance. This is consolatory to persons who can not restrain themselves from swallowing grape-seeds and the like. Moreover, rare as the entrance of a foreign body into the appendix is thus made to appear, the occasional innocuousness of foreign bodies when they do gain access to the appendix is strikingly illustrated by the condition in which that organ was found after death in the case of an old gentleman who, having been for many years an ardent sportsman and having eaten many of the game birds that he shot, finally died of some disease having not the remotest connection with his vermiform appendix, which, however, was found literally filled with bird-shot. This statement has the sanction of one of the best-known surgeons in New York.

Cases of disease starting in the appendix follow, as is well known, a various course, some ending in recovery and others in speedy death. This diversity of result is commonly recognized as depending not only upon the different plans of treatment employed, but likewise upon differences in the diseased condition itself. These differences were recently stated by one of the most experienced of our New York surgeons to be in the main as follows: When perforation takes place by a process of simple ulceration, a plastic exudation forms about the aperture, and protects the general cavity of the abdomen against the ingress of material from the intestine. Under these circumstances, the worst thing that is likely to happen is the formation of an abscess. When such an abscess forms, the patient's safety is best insured by postponing the operation of opening the abscess until it has shown recognizable signs of pointing. To open such an abscess prematurely, at a time when the protective wall of lymph is yet thin and perhaps incomplete, carries with it almost certain death. There are cases, however, in which the perforation takes place by sloughing, and in such instances the efforts made by nature to shut off the extruded matter from the general peritoneal cavity amount to little or nothing. Here there is no alternative but to perform laparotomy at once, and, unfortunately, not much is to be hoped for from its performance.

## *MINOR PARAGRAPHS.*

### UNIVERSITY MEDICAL COLLEGE.

As had been given out, the students held a meeting on Wednesday, the 2d inst., for the purpose of receiving the faculty's answer to their request mentioned in our last issue. The faculty did the students the honor of asking the vice-chancellor of the University to appear before them and explain the action that had been taken and to which it had been decided to adhere. We are glad to see that the vice-chancellor took occasion to express the regret felt by the authorities of the University and of the medical faculty at Dr. J. Williston Wright's resignation of the professorship of surgery, and to set right an impression that seems to have prevailed in some quarters to the effect that Dr. Wright had been forced to resign in consequence of failing health. The truth is, as the vice-chancellor stated, that Dr. Wright, like many another popular and effective teacher, gave up his position in order that he might be able to devote more time to his private practice.

### DEATH BY HANGING.

The inhabitants of the largest city of India seem to do homage to the hemp plant in rather an eccentric manner—they swing themselves into eternity with it. Surgeon-Major S. Coull Mackenzie, M. D., police surgeon of Calcutta, in a recent number of the "Indian Medical Gazette," gave his experience of about nine years in 130 cases of suicide by hanging. Of the persons, 65 were men and 65 women; 91·54 per cent. died from asphyxia, 6·15 per cent. from asphyxia with apoplexy, 1·53 per cent. from syncope, and 0·76 per cent. from apoplexy. In 81 cases the position of the tongue was noted, and in 50·61 per cent. it was found to be protruded between the teeth but not injured. In 61 cases a note was made as to whether the tongue was found bitten, and of these the tongue was injured in 16, or 26·22 per cent. A note was made in 40 cases in regard to the eyes. In 37·15 per cent. the eyes were open and the eyeballs were protruded. In 20 cases out of 21 frothy mucus was observed around the mouth and nostrils; 40·47 per cent. of a total of 42 victims were found with the fingers flexed or clenched. The nails were blue; 32·60 per cent. of a total of 92 had vaginal or urethral discharges; 34·78 per cent. of a total of 23 had a discharge of fæces from the rectum. The penis was found to be erected in 37·50 per cent. of 8 cases in which it was examined. The hyoid bone was found fractured in 24 cases out of a total of 93. The thyreoid cartilage in 64 and the cricoid cartilage in 11 were found not to be fractured. Notes were made in 77 cases regarding fracture and dislocation of the neck, and in not a single instance was there any injury of the vertebræ. Of the 90 cases in which the coats of the carotid arteries were observed, in 34·44 per cent. they were found to be ruptured. In a total of 91 cases, congestion of the small intestines had occurred in 89·01 per cent., limited in 43·20 per cent. to the serous coats; in 55·55 per cent. all the coats were congested, and in 1·23 per cent. the mucous coat only. The mucous membrane of the larynx, trachea, and large bronchi was found congested in 56 out of 71, a percentage of 78·87.

### ABSOLUTE SIGNS OF DEATH.

The "Lancet" gives an account of an able paper read at an ordinary meeting of the Medical Society of London, by Dr. B. W. Richardson, on the "Absolute Signs of Death." He gave first the circumstances under which the inquiry was made as to whether life was actually extinct, then the methods for determining the absolute proofs of death, and finally a summary of efficient practical details. Under the first head Dr. Richardson specified, (*a*) changes of color of the dead body; (*b*) retention of warmth; (*c*) retention of life-like expression after death; (*d*) prolonged preservation of the body from putrefactive decomposition; (*g*) suspension of the ordinary phenomena of vital action after some forms of induced narcotism; (*h*) the cataleptic state, idiopathic or traumatic. The various circumstances which might lead to a doubt as to absolute death were described in detail; then followed the actual proofs that had to be made in order to demonstrate satisfactorily that life was extinct. These were ten in number: 1, Respiratory failure;

2, cardiac failure; 3, reduction of the temperature below the natural standard; 4, the presence of rigor mortis and muscular collapse; 5, coagulation of blood in the veins; 6, the presence of putrefactive decomposition; 7, absence of a red color in semitransparent parts under the influence of a powerful light, such as that from a magnesian lamp; 8, absence of muscular contraction under the stimulus of an electric or galvanic current; 9, the absence of a red blotch under the skin after the subcutaneous injection of ammonia; 10, absence of signs of rust on a bright steel needle after plunging it deep into the tissues.

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## ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending December 31, 1888:

| DISEASES. | Week ending Dec. 26. | | Week ending Dec. 31 | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 15 | 5 | 17 | 4 |
| Scarlet fever | 133 | 59 | 203 | 35 |
| Cerebro-spinal meningitis | 4 | 4 | 6 | 3 |
| Measles | 415 | 25 | 257 | 12 |
| Diphtheria | 153 | 59 | 130 | 28 |

**The New York Neurological Society.**—At the next meeting, to be held on Tuesday evening, the 8th inst., Dr. G. M. Hammond will show a male patient with traumatic hysteria and read the history of the case; Dr. Isaac Ott, of Easton, Pa., will read a paper entitled "The Thermo-polypnœnic Center and Thermotaxis"; Dr. Henry Bergh will read a paper on "Eclampsia Infantum in its Relation to Fever." The meeting will be held in the large hall of the Academy of Medicine.

**The Ambulance Service of the National Guard, State of New York.**—By an order, dated Albany, August 28, 1888, at the suggestion of the Surgeon-General, the following-named medical officers were designated to serve on examining boards to the service: For the First Brigade—Major Robert V. McKim, Surgeon, First Brigade; Major Daniel M. Stimson, Surgeon, Seventh Regiment; Major Nelson H. Henry, Surgeon, Twelfth Regiment. For the Second Brigade—Major George R. Fowler, Surgeon, Second Brigade; Major John F. Valentine, Surgeon, Thirty-second Regiment; Major William E. Spencer, Surgeon, Twenty-third Regiment. For the Third Brigade—Major Herman Bendell, Surgeon, Third Brigade; Major Lewis Balch, Surgeon, Tenth Battalion; First Lieutenant Daniel S. Burr, Assistant Surgeon, Twentieth Separate Company. For the Fourth Brigade—Major Roswell Park, Surgeon, Fourth Brigade; Major Charles G. Stockton, Surgeon, Seventy-fourth Regiment; Major Albert H. Briggs, Surgeon, Sixty-fifth Regiment.

**The "Occidental Medical Times"** is to be the title of the journal hitherto known as the "Sacramento Medical Times." The journal is to be enlarged to fifty-six pages and the subscription price is to be reduced to $2 *per annum*, beginning with the number for January, 1889.

**The Health of Kansas City, Mo.**—According to the Health Department's "Weekly Return" for the week ending December 29th, there were 36 deaths, including 2 from croup, 2 from scarlet fever, 1 from meningitis, and 5 from pneumonia. This corresponds to an annual death-rate of 10·04 in a thousand of the population.

**Marine-Hospital Service.**—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending December 22, 1888:*

Hamilton, John B., Supervising Surgeon-General. Granted leave of absence for sixty days. December 20, 1888.

Bailhache, P. H., Surgeon. To inspect unserviceable property at New York Marine Hospital. December 17, 1888.

Wyman, Walter, Surgeon. To proceed to New York, N. Y., and transfer public property. December 15, 1888.

Carter, H. R., Passed Assistant Surgeon. Granted leave of absence for fifteen days. December 10, 1888.

Magruder, G. M., Assistant Surgeon. Upon expiration of leave of absence to proceed to New Orleans, La., for temporary duty. December 21, 1888.

Cobb, J. O., Assistant Surgeon. Leave of absence extended ten days. December 14, 1888. To proceed to Evansville, Ind., for temporary duty. December 20, 1888.

Stoner, J. B., Assistant Surgeon. When relieved to proceed to New York, N. Y., for duty. December 13, 1888.

Geddings, H. D., Assistant Surgeon. Upon expiration of leave of absence to proceed to New York, N. Y., for temporary duty. December 21, 1888.

**Society Meetings for the Coming Week:**

Monday, *January 7th:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *January 8th:* New York Medical Union (private—election); Medical Societies of the Counties of Chautauqua (semi-annual), Chenango (annual), Clinton (annual—Plattsburgh), Erie (annual—Buffalo), Genesee (semi-annual—Batavia), Greene (quarterly), Jefferson (annual—Watertown), Livingston (semi-annual), Madison (semi-annual), Oneida (semi-annual—Rome), Onondaga (semi-annual—Syracuse), Ontario (quarterly), Oswego (semi-annual—Oswego), Schenectady (annual—Schenectady), Schuyler (annual), Steuben (semi-annual), Tioga (annual—Owego), Wayne (semi-annual), and Yates (semi-annual), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Norfolk, Mass., District Medical Society (Hyde Park); Baltimore Gynæcological and Obstetrical Society.

Wednesday, *January 9th:* New York Pathological Society (annual); American Microscopical Society of the City of New York; New York Surgical Society; Medical Societies of the Counties of Albany and Dutchess (annual—Poughkeepsie), N. Y.; Tri-States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Hampshire, Mass. (quarterly—Northampton), and Worcester, Mass. (Worcester), District Medical Societies; Bennington, Vt., and Hoosick, N. Y., Medical Society (annual—Arlington, Vt.); Philadelphia County Medical Society.

Thursday, *January 10th:* Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society (annual); Medical Societies of the Counties of Cayuga, Fulton (annual—Johnstown), and Rensselaer (annual), N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *January 11th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties.

Saturday, *January 12th:* Obstetrical Society of Boston (private); Worcester, Mass., North District Medical Society.

# Letters to the Editor.

## THE INOCULABILITY OF LEPROSY.

102 East Fifty-seventh Street, New York.

*To the Editor of the New York Medical Journal:*

Sir: Since my article on "Leprosy in the United States" appeared in your Journal last March I have received a number of letters in reference to the subject. Dr. Berger, of Tampa, Fla., who has made extensive personal investigations of leprosy in Key West, Cuba, and Nassau, as well as in this country, writes me that he is convinced that there are over a hundred cases in Key West alone, and that he has personally inspected thirty advanced cases in that island.

Dr. Augustin A. Crane, who has recently gone to the Hawaiian Islands from New Haven and become a government resident physician in the midst of lepers, wrote me under date of October 29th. From the interesting information the letter contains I make the following extracts: "Father Damien, referred to on page 348, is now dying, having had a rather short course of the disease. He gives as his theory of the contagion that he was performing the last rites in an extremely foul case; that the flies were very annoying during the sacrament, and that he thinks he was inoculated upon an abrasion on the scalp by the flies." Dr. Crane describes the sufferer as being in a horrible condition. He further says: "The convict you speak of on page 349 is now distinctly leprous. These two points are slight in themselves, but, as far as they go, they seem to throw whatever weight they may have on the side of inoculation as against contagion."

It is very gratifying to me that some interest has been awakened in the subject, and I hope this report may prove equally so to some of your readers. I can not agree with Dr. Crane that the point in relation to the inoculation experiment by Dr. Arnoing upon a healthy convict is a slight one. To my mind it is the one thing needed to settle the question definitely. Furthermore, if lepra is an inoculable disease, it is quite probable that a fly-bite could become the means of inoculation, as Father Damien supposed, and in this case lepers must be regarded as dangerous to a community, and it is useless to bandy words about contagion and infection.

Charles W. Allen.

## HARRISON'S OPERATION FOR PROSTATIC ENLARGEMENT.

Massillon, Ohio, *December 31, 1888.*

*To the Editor of the New York Medical Journal:*

Sir: J. A. Freeman, M. D., of Brooklyn, writes you, November 7, 1888 (published in your December 8th issue), concerning "Harrison's Operation for Prostatic Enlargement," and states that "I do not know of the operation having been performed in this country previously, unless the case reported in the Journal of September 29, 1888, by Dr. Abner Post, of Boston, was the same." Please allow me to copy from my record-book: "August 29, 1882, operated on Patrick M., aged sixty-two, for chronic cystitis and enormous enlargement of all lobes of the prostate gland by perineal section, entering the bladder through the middle and left lobe, making complete section of the same. This patient has made a good recovery; the prostate gland has atrophied so that three months after operation it can scarcely be felt through the rectal walls, no pain in bladder, and he can retain urine as long as desired. This is a new field, and is comparatively unexplored, but I am emboldened by success in this case to prosecute my studies and operations in these cases."

But in 1879 I had made my first attempt in this field. The patient died, however, five days after, from uræmic coma. I have made two successful operations since, and as late as last week one more for chronic cystitis and enlarged prostate, the result of stricture of eighteen years' standing, result of perineal injury, wherein I was compelled to first dilate the stricture with Gouley's dilator before I could introduce the staff, using first the hair thread, and found the perinæum the seat of numerous canals and pouches filled with pus, leading into the urethral canal, with hard infiltration of inflammatory products, involving five inches of the canal and extending to the bladder. The patient is making a good recovery under the care of the local doctor, Baker, of Louisville, this county. I reported my earlier operations in this field to the Northeastern Ohio Medical Association meetings, but did not report them to any journal. I, further, lay no claim to priority, as I think the operation has been done occasionally for a great many years.

Very respectfully, A. W. Ridenour.

## CHLORIDE OF METHYL AS AN ANODYNE.

100 East Fifty-eighth Street, New York, *December 24, 1888.*

*To the Editor of the New York Medical Journal:*

Sir: In your Paris letter dated November 19th a few remarks are made concerning the chloride of methyl. The object of my writing to-day is to direct the attention of American physicians to this paragraph, as it contains statements which are of great practical importance. In reference to the favor with which the chloride of methyl is looked upon abroad, your correspondent says "constant practice only increases the confidence in it." This also has been my experience. I have now used this remedy for the treatment of neuralgias and various forms of pain for about two years, and certainly give it the preference over all other freezing methods. Here in America the chloride of methyl has not received the trial which it deserves, and this was to be foreseen on account of the expense and the difficulty of obtaining it. It was for this reason that, in my paper before the American Neurological Association in 1887, on "The Treatment of Neuralgias by Means of Intense Cold," I suggested the use of the condensed carbonic-acid gas as a substitute in certain cases for the chloride of methyl. The above-mentioned objections to its use have now been entirely obviated, and the filled cylinders can be obtained in this city, and replenished when empty, at a cost considerably smaller than at the time at which I wrote. In consequence of this, although the methyl is still not so cheap as it might be, I have entirely abandoned the use of the carbonic-acid gas.

In regard to the methods of application, your correspondent refers to the tampon method and the glycerin coat. As I have had considerable experience with the one and some with the other, I may be pardoned for giving my opinion concerning them.

In October, 1887, Dr. Bailly (de Chambey), in a communication to the Paris Academy of Medicine, recommended that, instead of applying the spray directly to the skin, a small pledget of absorbent cotton, enveloped by a covering of silk and held by means of a dressing forceps, be exposed to the action of the spray and applied. These methylized pledgets, retaining the cold for quite a period of time, can thus be applied to the painful points, and their action limited or increased according to the time that they are allowed to remain in contact, and according to the amount of pressure exercised.

In neuralgias of smaller nerves, or whenever it is desirable to confine the action of the chloride of methyl to a single point, this method, in my opinion, presents certain advantages, but I can not agree with Dujardin-Beaumetz when he says that since the introduction of this method the direct spray must be abandoned. The old method is still, in my opinion, the only one to be employed where a large territory is to be acted upon at once, as in cases of sciatica, the action of the cotton pledgets being comparatively superficial, and consequently the counter-irritation not intense. The chief advantage of the "stypage," as it is called, seems to me to lie in the applications to the face—first, on account of the facility of localization, and second, the discoloration of the skin, which is such a great objection to the use of the spray, is, in my experience, avoided by this means.

The second method is that employed by Bardet. He brushes the part to be acted upon with a coating of glycerin, and then applies the spray. The glycerin is at once turned into ice, and the counter-irritation is prolonged for a much greater period of time than by the application of the spray directly to the skin. As soon as it becomes desirable to arrest the action of the methylized glycerin the coating can be wiped off with a cloth. This method also has its practical objection. The frozen glycerin obscures a clear view of the underlying skin, and it is thus impossible to note the changes in color which this undergoes, and which constitute so important a gauge of the action of the methyl. For this reason it has several times happened to me to produce comparatively deep eschars, an occurrence which with a little care need never occur with the direct spray. This experience with the glycerin coat has led me to avoid its use in all first applications. I now always endeavor to gain an idea as to the susceptibility and powers of reaction of a patient's skin by means of the direct spray before using the glycerin. Once possessing this knowledge, I can easily employ the glycerin coating, leaving it upon the skin for a longer or shorter period of time, according to the effects obtained by the direct application, always bearing in mind, however, that the methylized glycerin acts more intensely in the same space of time than the methyl alone.

Since making use of these methods, each cylinder of chloride of methyl serves me for about three times as many applications as formerly. George W. Jacoby.

# Proceedings of Societies.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN THEORY AND PRACTICE OF MEDICINE.

*Meeting of October 16, 1888.*

Dr. R. C. M. Page, Chairman.

**Neurasthenia; its Differentiation and Treatment.**—Dr. L. C. Gray read a paper on this subject. (See vol. xlviii, page 421.)

Dr. M. E. Brill agreed with the views taken by the reader, and considered the classification excellent. He remarked that the reason why Germans had said that they did not find neurasthenia in their country to any such extent as it existed in America was that Dr. Beard had placed under the term all the similar nervous disturbances due to reflex influence from other disordered functions, and the mental disorders, including insanity, which Germans recognized, but under other names. The fact that often a typical neurasthenia appeared for a short time with diarrhœa or other wasting diseases showed to him how easily general symptoms in the nervous system arose.

Dr. E. C. Reeves, of St. Paul, Minn., spoke in praise of the classification made by Dr. Gray and its simplicity. He thought the well-known maxim that neurologists should be good clinicians should read that they should be good diagnosticians as well. A large amount of the practice in the West had to be done by men without much training in diagnosis, mistakes in which were there not so discreditable as in the East. Thus he had been called in consultation to see a patient suffering from vomiting, headache, and aphasia, which were supposed to be due to neurasthenia, apoplexy not having been thought of. In another instance the speaker had made a diagnosis of neurasthenia in the case of a girl who was slowly wasting away. Before her death, however, there had been a general agreement of physicians that a large malignant tumor overlay the thoracic duct. The autopsy showed that this tumor was merely an unusual forward curvature of the lumbar vertebræ; and no cause appeared. The lithæmic state had given him much trouble until he had learned to recognize and treat it accordingly. In one point his experience differed from Dr. Gray's: After railroad accidents he had quite commonly found a condition of disordered nervous action, resulting from the jar and internal concussion, which he believed due to a real molecular disturbance, and not one that was remedied at once by the awarding of damages. These patients presented disturbance of circulation, depression, mental confusion, exaggeration of reflexes, and liability to be easily tired, making a real neurasthenia, and one which sometimes went on to nervous degeneration. In his treatment of neurasthenic cases he assumed a malnutrition of the nervous centers, and had succeeded best with measures directed to improving nervous nutrition. In the cases with vertigo and fullness of blood in the head he had used ergot and bromides with success. Where he found spinal disorder of nutrition, galvanism of the spine had given good results in his hands. He had obtained also very good general effects from an agent which physicians in New York seemed to attach little value to, and that was static electricity. It might be that psychical influence was at the bottom of it, and that there was no tonic influence as there seemed to him to be. If the effect were a purely psychical one, like that of hypnotism, even then it was a real aid.

Dr. W. R. Birdsall remarked that he had always regarded the term neurasthenia with suspicion. He believed such a condition might exist, but always felt ashamed of a diagnosis going no further than that word; at least he always recognized that it was insufficient. He believed there was a neurasthenic element in disease, but when we tried to apply the term to a group of symptoms it did not in practice give satisfaction. Nervous symptoms were always prominent, in disease and out of disease. Thus in any community the persons forming it could readily be classified as those who had stable and those who had unstable nerves. Inheritance explained many cases of neurasthenia, doubtless; local and temporary causes explained many more. The lithæmic condition he believed a prolific cause; overwork and bad nutrition covered other classes. When we came to study insanity, the degenerative types, paranoia and the like, taught us that many cases of melancholia were based on a low grade of structure and nutrition of the nervous system which came by inheritance. As to treatment, he thought it important to recognize that it was often not enough to remove the abuse or the local disorder in the nose, eye, or digestive tract, which might at first sight seem the sole cause, for the neurasthenic condition, whether inherited or acquired, meant an unstable nervous system. Even with the exciting cause or causes remedied, we must take the general state into account, or, after a little, if he had called himself well and lived like those about him and without reference to his neurotic constitution, the patient would be sick again. He thought Dr. Gray's classification of the condition according to cause—whether a reflex disturbance, the lithæmic state, or malnutrition—at least a convenient one. What he meant by his simple form he had not understood.

He seconded all that Dr. Gray had said about the lithæmic form. He also believed that complete rest and forced feeding were indicated in certain cases, but that at the same time there was a large class who needed increased activity, and that of a sort to stimulate respiration, as walking on pavements would not do. For these, mountain climbing, rowing, or other outdoor sport, undertaken very gently at first of course, was indicated to develop the arms, chest, and breathing power, to quicken tissue changes, and especially to give pleasant mental occupation. He believed the lithæmic state particularly needed this diversion of the thoughts, usually turned completely inward and hypochondriacal, and good company was one of the most important aids in this direction. He thought neither inheritance nor overwork caused as much neurasthenia as worry or other emotional disturbances, and that sexual excesses, natural or unnatural, explained a very large number of cases by making the whole nervous state unstable, the circulation uneven, and digestion imperfect. He always looked carefully in this direction, judging by sensitiveness of the eye to light, moisture of the palms and the feet, and a poor cutaneous circulation—all resulting as they did from deficient heart action, and that from deranged nervous centers.

Dr. W. H. **Thomson** remarked that he thought the only good use to make of the term neurasthenia was for either quieting or interesting patients, pronouncing it slowly, and adding that it was not fatal. Otherwise he abominated the word as being second only to the word "tonic" in the looseness of its application, the latter being applied indifferently to bitter drugs, strychnine, electricity, cod-liver oil, cold water, sea voyages, and horseback riding. It led to more poor practice than "anæmia" as a diguosis. He constantly had cases, however, which he was forced to recognize as "neurasthenia," because he could not find the real disease. He always had four questions to put in his mind, besides that of nervous functional debility. They related to the possibility of virtual starvation, of overstrain, of drain on the system, and of self-poisoning. Virtual starvation explained many cases among women, where coffee and a piece of bread constituted the breakfast, a midday meal was taken still deficient in amount, though of fair quality, but at supper a piece of bread again, tea, and preserves or cake. These women might not be thin or pale, but, nevertheless, had neurasthenic symptoms, because food enough was not taken to support the functions of the body. These recovered by compulsory feeding, combined with rest and attention to circulation and respiration —the Weir Mitchell plan. The overstrained were usually the overworried, and often showed signs of deficient sleep, such as running on one idea too long. Here he tried to feed as well as possible. and changed the surroundings completely. Drains on the system were often the causes, and must be detected; but he believed the most common cause of all was self-poisoning. In a number of instances in his experience severe mental and neurotic disturbances had yielded to a few doses of bismuth, calumba, and naphthaline, or, in a word, intestinal antisepsis. Some years ago diseases of the thorax had engrossed the attention of physicians, afterward diseases of the kidney had done the same, and quite lately nervous diseases had been prominent; but he thought we were now on the eve of returning to the ideas of the medicine of a former century, when the bowels were made the prime seat of all disorders of a general sort. Here was the great laboratory of the blood. Ferments were always present here, even in health, whose poisonous products were thrown out at the kidney. Nothing was more apt to occur than that unnatural products should arise which the kidney did not easily throw out, or that the antiseptic elements normally present in the bowel should be unequal to the amount of fæcal matter constantly tending to undergo internal change into poisonous matters. A very significant symptom presented when the urine lost its color, as we knew that the source of the latter was in the intestine. Uræmia the speaker had found not to be uræmia at all, but a prolonged self-infection by other elements than urea or its direct antecedents, and due to loss of the natural antiseptics. He believed that this was the true cause of lithæmia in most cases. The pulse and the urine mainly guided him to a detection of this state. The pulse of starvation, overstrain, or drain on the system was weak and noticeably compressible. But in the lithæmic state it was just the opposite, especially immediately after meals, when high arterial tension was developed. In the three former conditions we had a low specific gravity, with neutral or even alkaline reaction, while the lithæmic state often had high specific gravity and acid reaction or many urates. As to treatment, he believed there was only one cure or means of giving lasting help, and that was to have the patient camp out in the woods or mountains, sleeping in a tent and changing all his previous conditions and occupations in a radical manner. Neurasthenia was not found among nomadic tribes, nor were gout, inflammation of mucous membranes, and increase of connective tissue, the presence of which in civilized races meant deficient breathing and oxidation of tissue.

Dr. A. **Jacobi** wished to add to Dr. Gray's mention of the German idea which made neurasthenia an American disease the fact that they had also once called infantile paralysis and hay-fever distinctively American diseases. He then mentioned a number of the older German authorities who gave good accounts of all these nervous states now ascribed to Americans, under somewhat vague names, such as neurosis, but showing a perfect comprehension of their essential features. Dr. Beard had hit on a good name for a disease which had very variable aspects. It was the inevitable tendency of progressive medicine to drop names which did not represent our diagnosis of diseased conditions—such as paralysis, dropsy, and apoplexy. No complex of symptoms should be honored with a name, as if it could be called a disease *per se.* Neurasthenia we elevated to such a place only when we had excluded every possible primary disorder to which it might be secondary. But the difficulty arose from the fact that it was a result of so many other diseases. Mere weakness of the nerves could not constitute neurasthenia, or every convalescent would be in that state. We had been told that was a chronic malnutrition of the nerves. It was hard to believe this could exist as a special condition so as to need a name. We constantly saw such a general deficiency of nutrition and vital activity coming by inheritance and showing itself in babyhood, in childhood, and in the man or woman. They simply did not have nerve power, and what should we call it in these cases? In like manner we had cases where chlorosis appeared early and persisted, no recovery from which was possible. Congenital smallness of the arteries determining deficient nourishment of all functions was another such organic defect, more than disease. He believed that in every such case we needed to look to subjacent conditions, and the sooner we got rid of the word "neurasthenia" the better it would be for our pathology. In regard to Dr. Gray's treatment, he thought the doses of cascara sagrada and of nitro-hydrochloric acid too large, and that the latter ought to be of more use some time after meals, when the lactic-acid stage of digestion was past. The fatty acids usually present in the stomach previous to meals needed alkalies more than acids.

Dr. A. D. **Rockwell** believed in the existence of neurasthenia as much as in that of malarial poisoning as a disease, and thought the term had a use, although it had been abused. He thought nervous exhaustion and lithæmia the most important causes. When he saw patients with cold hands and feet, irritability, and a peculiar depression shown in the expression, he looked to a toxic state arising from a bad digestion as at the root of the trouble. He thought people varied much as to what diet would insure perfect digestion, especially with reference to the amount of meat; and self-study was needed. In this sense he believed that every one at forty became either a fool or a physician—to himself.

Dr. Simon Baruch believed in the existence of the disease as such. He believed the aim in treatment should be to bring on more rapid tissue changes. He employed to this end mild purgatives, mechanical and thermic irritations of the skin, and especially the cold douche or plunge taken in the morning. He always made it short enough to insure full reaction, which he aided by rough towels and warm clothing.

Dr. E. D. Fisher approved of the term as conveniently covering a number of irregular symptoms. As we came to understand the nervous system better it would probably be discarded. He advocated the use of nitro-hydrochloric acid before meals, which he had found unequaled for improving the appetite and restoring nervous tone.

Dr. Gray said that his object had been to call out opinions. In regard to the question of neurasthenia being itself a disease instead of a symptom of one, he thought if we attempted to fill the mind with all the rarely observed but possible diseases to which a neurasthenia was secondary we should miss recognizing many veritable cases of primary neurasthenia where no other morbid condition was present, and which recovered more or less quickly. Such a disturbance we called functional or simple. While there was undoubtedly an anatomical change in the cellular elements, it was not visible to us, and was temporary. As to the use of nitro-hydrochloric acid before meals, he had used it so for ten years, and had obtained more improvement than followed the giving of any other drug. The clinical results outweighed any *a priori* considerations with respect to giving it before or after meals. He knew of three cases of neurasthenia which had ended in death. Autopsies had been made in two of them and no visible lesions found.

## AMERICAN GYNÆCOLOGICAL SOCIETY.

*Thirteenth Annual Meeting, held at Washington, September 18, 19, and 20, 1888.*

The President, Dr. Robert Battey, of Rome, Ga., in the Chair.

(*Concluded from vol. xlviii, page 724.*)

**The Importance of the Microscope in the Treatment of Sterility in Women.**—Dr. H. Marion-Sims, of New York, in this paper remarked that the gynæcologist was consulted more frequently for sterility than on account of any other symptom. Simpson affirmed that one marriage in eight was unfruitful. Impotence in both the male and the female might be either real or apparent. In the male it might be congenital or acquired; spermatozoa might be absent in consequence of disease, especially gonorrhœa with accompanying orchitis. In deciding upon the cause of sterility in a given case, we should ascertain if both the male and the female were competent to have connection, if the spermatic fluid contained zoosperms, and if they lived after being deposited in the vagina. In order to determine the latter point a drop of semen was examined microscopically soon after coition.

Sterility was sometimes curable and sometimes not. If it was shown that the male was healthy, the female should be examined with a view to determining if there was any obstacle to the passage of the semen into the uterus. With regard to the physiology of ovulation, it was probable that the ovum was fructified in the Fallopian tube. Spermatozoa had been found alive in the tube, and even at the fimbriated extremity, within ten hours after copulation. If there was any obstruction to the passage of the ovum into the uterus, sterility would result, as in constriction or torsion of the tubes by pelvic adhesions. Any marked and permanent uterine displacement would interfere with conception. Disease of the endometrium, and tumors, were also causes. The os tincæ might be so small that the spermatozoa could not enter the uterus; in that case it should be dilated according to one of the usual methods. In cases of acute cervical anteflexion, incision was the best treatment; the reader had never seen an accident follow this operation, while sterility had frequently been cured. Many gynæcologists failed to accomplish the desired result, because they did not treat the patient after the operation, so as to remove from the cervical canal the abnormal secretion that killed the spermatozoa. The cervical mucus should be translucent. A drop should be removed a few hours after intercourse and examined with the microscope; this was best done by means of a curved glass tube attached by rubber tubing to a uterine syringe. If the spermatozoa were found in a dead or dying condition, the secretion must be in an abnormal condition, and hence the endometrium must be diseased. At the same time the general health of the patient might be perfect. Sometimes the insertion of a properly fitting pessary was enough to insure conception; again, the treatment might consist in curetting or in intra-uterine applications and the introduction of boroglyceride tampons. In any case the patient must not be dismissed as cured until the cervical mucus was restored to a healthy condition, as evidenced by the fact that live zoosperms could be found in it from twelve to twenty-four hours after intercourse. The reader cited a case in which sterility persisted for ten years after an abortion, due to the persistence of an unhealthy discharge from the uterus, and was cured by appropriate treatment.

Dr. Barker said that conception might occur after the limit which was usually assigned, but that in his experience the case of Sara, Abraham's wife, was the only authentic one in which it had taken place after the age of fifty-five. In 1852 he had attended a lady, aged fifty-two, who was in labor for the first time, and had delivered her by version of a living child; ten months later she had a premature labor, and fourteen months after this she again became pregnant. She was now in good health at the age of ninety. Sir James Simpson had affirmed that women who married late in life seldom conceived; the speaker questioned the truth of this statement.

Dr. Hunter had found that more patients conceived after gradual than after forcible dilatation of the cervix.

Dr. Wilson agreed with the author that division of the cervix for the cure of sterility must be followed by treatment directed to the diseased endometrium.

Dr. A. W. Johnstone, of Danville, Ky., called attention to the fact that in the case of the infantile uterus the microscope would afford no aid in the recognition of the true cause of sterility. This condition of the uterus was probably due to disease of the sympathetic nerve-system, which was incurable. In such cases, where menstruation was very scanty and irregular, sterility was absolute.

Dr. Coe agreed with the last speaker in regard to the uselessness of treatment in cases of infantile uterus, and cited examples that had come under his observation. He believed that the obstructions of the tubes from previous pelvic inflammation, alluded to by the reader, were quite frequent, since they were often observed by the laparotomist and pathologist. Here was an unsuspected cause of sterility, which eluded the gynæcologist, who might in vain direct his treatment to visible disease or displacement of the uterus.

Dr. Skene asked Dr. Johnstone if the anatomical change in the infantile was not similar to that in the senile uterus? Was there any change in the secretion which might be recognized by the microscope?

Dr. Johnstone replied that the senile uterus contained more fibrous or cicatricial and less adenoid tissue than the infantile. More epithelial elements were present in the discharge from the latter.

The President had found that in his native State women often conceived at a more advanced age than seemed to be usual in some localities. It was not unusual for women to conceive at fifty, and cases of persistent menstruation at fifty-five were by no means rare. A relative of his own had been delivered at fifty-six. He cited a case of sterility in which the only cause had seemed to be an unusual depth of the posterior fornix. He gave the husband some instruction in mechanics, and pregnancy promptly resulted.

Dr. Kinloch, of South Carolina, cited two cases in which patients were delivered at the age of fifty-three. The late Dr. Budd had mentioned the case of a woman who bore twenty-two children, the last when she was sixty-two years and eight months of age.

Dr. Sims said, in closing, that he had been glad to hear the testimony of the speakers with regard to the value of division of the cervix for the cure of sterility. His father had been criticised for performing the operation, because it had been done so frequently in unsuitable cases that the operation had been brought into disrepute. Fatal results had followed because patients had been operated upon in the office and allowed to go home afterward. He was accustomed to keep them in bed for ten days. He always used a rubber stem, which effectually checked hæmorrhage.

**The Influence of Pregnancy on Pelvic Diseases.**—Dr. Hunter read a paper with this title in which he opened with the remark that it was the popular opinion that pregnancy was a remedy for many of the diseases of women; on the other hand, patients with pelvic troubles were often advised by their physicians not to marry, as pregnancy would increase the local affection. It was important to remember at the outset that during pregnancy there was a permanent congestion of the pelvic organs, which would naturally tend to exert even more of a deleterious influence on local disease than did the menstrual periods when the congestion was only temporary. Affections of the external genitals, such as were aggravated by hyperæmia, were always worse during pregnancy, especially pruritus. Malignant disease of the vagina usually progressed more rapidly. Prolapse of the vaginal wall became more marked. Erosions of the cervix were aggravated in early pregnancy, but lacerations were not particularly affected. Epithelioma grew rapidly during this period, and sometimes impeded delivery. Among uterine displacements, congenital anteflexion was usually relieved or cured, while retroflexion led to abortion. In some cases of retroflexion with fixation, in which pregnancy progressed to term, the uterus became more movable after involution had occurred, but more often subinvolution resulted and the original displacement was aggravated. In general, the influence of a normal pregnancy on displacements was good, but abortion led to serious results. Subperitoneal fibroids were not much affected by pregnancy, but sessile growths were apt to undergo changes under its influence, seen especially in their increased vascularity and their enlargement. Small tumors might undergo atrophy or fatty degeneration in consequence of pressure. Endometritis was usually aggravated, and, in consequence of septic absorption after abortion, salpingitis might occur. Adherent ovaries and tubes might be torn as the gravid uterus enlarged; there was apt to be severe pain which might simulate that due to extra-uterine pregnancy.

Oophoritis was likely to be aggravated by the hyperæmia attendant on pregnancy; prolapse of the ovary commonly resulted from imperfect involution. Ovarian cysts probably grew more rapidly during gestation, and there was evidence that malignant disease made rapid progress at this time, although it had not been proved that it originated then. Among the injuries to which ovarian cysts were subject during pregnancy were torsion of the pedicle, rupture, hæmorrhage, and suppuration; abortion was a secondary result.

A laceration of the cervix was not necessarily increased by a subsequent delivery, but there seemed to be some danger that malignant disease might develop in such a cervix. In some instances the induration in the angle of the tear seemed to grow softer, but it did not appear to have undergone any change when the patient was examined after delivery. If a patient with parametritis became pregnant she might have severe pain during the period of gestation, simulating that of extra-uterine pregnancy, though more constant. If she passed the third month without aborting she might be cured. Parametritis was more apt to follow abortion than labor at term. In conclusion, it might be said in cases of malignant disease of the cervix, endometritis, and diseases of the ovaries and tubes, that pregnancy was a positive evil.

Dr. Skene said that the subject was one of great practical interest, since the physician was often called upon to decide what the effect of pregnancy would be in a given case of pelvic disease. Pregnancy exerted a marked influence on the general nutrition. Delicate women with scanty menstruation might be greatly improved. Certain displacements, especially flexions, which were aggravated by malnutrition, might be corrected by utero-gestation. As regarded old pelvic adhesions, the speaker thought that the risks of ensuing pregnancy more than counterbalanced the occasional benefits. Cases of retroversion, if properly treated, might be cured, but, if the patients were not carefully treated after delivery, the displacement was apt to recur. The speaker had verified the author's statement with regard to the influence of pregnancy upon hyperæmic and prolapsed ovaries; the prolapse might be relieved, but usually recurred after confinement.

Dr. B. McE. Emmet thought that in cases of slight pelvic disease pregnancy might do some good by giving rest to the parts. Displacements were often relieved, provided the patient received proper care after delivery.

Dr. Kammerer, of Montreal (a guest of the society), cited two cases, one of uterine fibroids and one of disease of the ureter, which were complicated by pregnancy. The second patient died of uræmia after delivery.

**New Methods of Electrotherapy in their Bearing on Gynæcological Practice.**—Dr. Engelmann read a paper thus entitled, in which he said that ultra-enthusiasm in regard to the use of electricity had led to frequent failure. Not enough attention had been given to the pathological indications in individual cases. The reader was obliged to confess that he had not obtained as remarkable results as some gynæcologists in cases of large uterine fibroids. In this paper galvanism alone was considered; it was proposed as an adjuvant, not as a substitute, for surgical operations. Its use was not attended with so much *éclat* as an operation, but the advantages were that the patient was able to be about and attend to her work while under treatment.

The cases most suitable for electricity were those in which there were neoplasms or inflammatory products that admitted of a healthy retrograde metamorphosis. The results of galvanism might be imperfect, but they were always satisfactory, and did not prevent a subsequent resort to the knife. We should always give electricity a trial before attempting oophorectomy.

In many cases of stenosis of the uterine canal, especially if there was much induration, a cure might be obtained by a few painless applications. The author was accustomed to introduce at first a small probe; dilatation was continued until a large sound could be passed. Pelvic exudates and even abscesses could be treated with electricity without puncture. In one instance the reader employed this treatment in the case of a patient whose pelvis was filled with a hard mass, the uterus being prolapsed and fixed. One week after the second application he was able to replace the uterus, although the mass was not much smaller. Although he had not been as successful as others in the electrical treatment of fibroids, he had frequently seen them grow smaller, although they never entirely disappeared. In using electricity we sought to establish a healthy retrograde metamorphosis; if the tumor had already entered upon this change, the process might be hastened. If fatty degeneration had begun, the tumor would diminish in size; on the other hand, the application of electricity to a fibroid that was the seat of cystic degeneration would do harm. Subserous pedunculated tumors were less likely to be affected by galvanism. The reader had punctured tumors several times *per vaginam*, and had only had one case of hæmorrhage; he had even done this operation at the clinic, and allowed the patient to go home afterward. In puncturing he used a stylet instead of a needle; he had never introduced an electrode into the uterine cavity. In conclusion, he would say, always give electricity a trial before undertaking a serious operation. The recent position taken by the Keiths, as well as by Martin, should lead us to follow their example.

Dr. H. P. C. Wilson said that he had used electricity extensively during the past year, and found that success depended upon the selection of cases, the same as in laparotomy. The benefits derived from the remedy might not appear until some time after it had been used. Apostoli and Keith said that if no result was obtained after thirty sittings it was useless to continue. The former did not puncture if he could introduce an electrode into the uterine cavity. Electricity was frequently used in unsuitable cases, hence accidents occurred, but in proper cases great good would be done.

Dr. Hewitt thought that electricity was destined to be a powerful agent in gynæcology. The present zeal for operating should be moderated. The effect of galvanism should be tried whenever there were any doubts as to the performance of a serious operation.

Dr. Parrish had seen pelvic exudations disappear rapidly under the use of electricity, but never after suppuration had occurred.

Dr. Engelmann, in closing, said that Dr. Keith had stated that he would consider a surgeon as almost criminal if he operated upon a fibroid tumor without first trying electricity. Galvanism had no effect on a suppurating sac, especially a pyosalpinx. It was most valuable where there was an old induration of the pelvic tissues.

**A Specimen of Ovarian Pregnancy.**—Dr. Matthew D. Mann, of Buffalo, presented a specimen which had been removed post mortem and sent to him by Dr. Freeman, of Pennsylvania. When first examined there was a thin-walled cyst occupying the site of the ovary, through the wall of which a fœtus could be distinctly seen; the latter was destroyed through carelessness in preserving the sac, so that when Dr. Mann opened it he found in it only a quantity of milky fluid and a flattened disc attached to the cyst-wall. Section of this disc, when examined microscopically, presented the structure of placental tissue. It had been said that all extra-uterine pregnancies were primarily tubal, and some had gone so far as to deny the existence of the ovarian and abdominal varieties. A review of the literature by Spiegelberg showed that thirteen authentic cases had been reported, and one or two more had been observed since his paper was published.

**The Indications for Primary Laparotomy in Tubal Pregnancy.**—Dr. Joseph E. Janvrin, of New York, read a paper on this subject. The author referred to a case which he had already reported, in which the patient died from rupture of an artery in the sac after electricity had been applied. The attacks of colicky pain that preceded final rupture of the sac were due to partial lacerations. The latter constituted a clear indication for primary laparotomy, to which it was preferable to resort instead of to electricity. By "primary laparotomy" he understood the performance of abdominal section for removal of the tube and contained fœtus before the fourth month, and before rupture had occurred, the diagnosis of extra-uterine pregnancy having been made before the operation.

Cases had been reported by Dr. Joseph Price, of Philadelphia, and Dr. John S. Hawley, of New York. The author quoted from Dr. Hawley's paper to the effect that, although this operation had been proposed and carried out several years before, it had really not been primary, as the sac had ruptured before laparotomy was performed. It was highly important to recognize the existence of the ectopic pregnancy as early as the fourth week. The symptoms were as follows: The patient missed her expected period, and about a week after had a slight show which might be repeated a week later. An examination of the discharge would reveal pieces of decidual membrane. The usual symptoms of early pregnancy would then develop. On examination, the os would be found to be patulous and the uterus enlarged (to the depth of three inches and a half) and pushed a little to one side of the median line by a mass, globular, semi-elastic, slightly movable, and very sensitive on manipulation. The sensitiveness of this tumor was a very important point, as distinguishing it from a hydrosalpinx or a pyosalpinx. The enlarged tube might be prolapsed behind or on one side of the uterus. It was a fact that ectopic pregnancy was most likely to occur in women who had not borne children for some time, as well as in those who engaged in illicit intercourse. When the existence of this condition was recognized, the question arose, "Should we apply electricity, or resort to laparotomy at once?" If the former method was adopted the fœtus was destroyed and left in the abdominal cavity, where it might do harm subsequently. Laparotomy at the present day involved but slight risks. In conclusion, the author expressed the opinions that extra-uterine pregnancy began in the tube in the majority of cases; and that it was exceptional for the sac to rupture and discharge its contents between the layers of the broad ligament. He believed with Tait that the placenta continued to grow after the death of the fœtus.

**The Early Diagnosis of Ectopic Pregnancy, with a Report of Two Cases successfully treated with Electricity.**—Dr. Horace T. Hanks, of New York, read a paper thus entitled in which he said that during the past three years ninety-seven cases of extra-uterine pregnancy had been reported in English medical journals alone. In thirty-one cases no operation had been performed, and eighteen patients had died; one half of them before the third month of pregnancy. The author thought that in at least 95 per cent. of these cases the condition should have been recognized before rupture occurred. Two cases were then cited in which there was a typical history of extra-uterine pregnancy. The growth of the fœtus in each instance was entirely arrested by a moderate galvanic current. In diagnosticating this condition it was first necessary to obtain a clear history, then to make a thorough physical examination. Electricity was the proper agent to be used before the fourth month. In twenty cases in which it had been employed, only two patients had died, which was certainly a better result than could have been obtained by any other method of treatment. Of course it should not be applied after symptoms of rupture had appeared. The author was far from seeking to decry operative interference at the hands of experienced surgeons, but he believed that electricity was a safer agent, and one which could be used by the general practitioner. Laparotomy could be performed just as well after electricity had been tried. If rupture occurred, we must operate at once.

The following rules were laid down: Before the fourth month, when there may be only premonitory symptoms of rupture, use electricity; if rupture occurs, perform laparotomy at once. After the fourth month perform laparotomy. After the fifth month wait, but be prepared to operate if an emergency arises. If the pregnancy advances beyond the ninth month, operate according as serious indications appear.

### *Discussion on all Three Papers.*

Dr. **Harvey**, of Calcutta (a guest of the society), said that laparotomy was still in its infancy in India, owing to the fact that the natives were very conservative and averse to surgical operations. He had seen several cases of tubal pregnancy, but most of the specimens were obtained post mortem. American physicians had shown that the fœtus could be killed by electricity, and that this agent was especially useful to the general practitioner. Expectant treatment alone was not justifiable, since most patients, if left to themselves, would die.

Dr. **Reeve** referred to the work which the society had accomplished in advancing our knowledge of this subject. A few years before he had reported the fourth recorded case in which the fœtus of an ectopic gestation had been killed by electricity. He had been much criticised at that time because he had no fœtus to show, and doubt had been thrown upon his diagnosis because *ballottement* (!) was absent in his case. He had been struck by two important diagnostic points—the pulsation in the vessels of the sac, and its rapid growth, as well as the sudden cessation after the use of electricity. As regarded treatment, he did not see how any harm could result from leaving the remains of the sac in the abdominal cavity. It should not be forgotten that the application of electricity might cause rupture of the cyst; this risk should be explained to the patient, and the attendant should be prepared to perform laparotomy at the shortest notice.

Dr. S. C. **Gordon**, of Portland, Me., thought that there must be many cases in which laparotomy was performed too late to save the patient. He gave an instance in which he had been called to a long distance to see a case of ruptured tubal-gestation sac, and operated successfully sixteen hours after the accident. If, as Dr. Hanks had affirmed, 95 per cent. of these cases could be diagnosticated, it seemed unjustifiable to run the risk of hæmorrhage by waiting, when laparotomy could be performed with comparative safety. The after-history of many cases in which the sac remained in the cavity showed that there was a subsequent risk of suppuration.

Dr. **Johnstone** thought that the specimen exhibited by Dr. Mann was a dermoid cyst of the ovary; if it had been an ovarian pregnancy, the sac would have been more vascular. Even placental tissue might be expected in a dermoid growth. With regard to the treatment of extra-uterine pregnancy, Mr. Tait had told the speaker that in only one out of seventy cases had he operated before the occurrence of rupture. Colicky pains and symptoms of shock nearly always indicated rupture. In a case operated upon by himself the patient had had three distinct attacks of this nature; at the operation three blood-clots were found of different ages, corresponding to three ruptures of the tube. He had observed the same thing in Mr. Tait's operation, and Tait himself had called attention to it.

Dr. **Price** had stated that it was only a matter of luck to find a sac that had not ruptured; hence the risk in using electricity. Since the placenta continued to grow after the death of the fœtus, it was necessary to kill the former, too. He could recall cases in which suppuration of the sac had occurred after the death of the fœtus. Such a fœtus tended to become a lithopædion, and the presence of the latter in the abdominal cavity was always a source of danger.

Dr. **Kollock**, of South Carolina, cited a case of ectopic pregnancy in which the patient had two attacks of shock, and at the autopsy evidences of two distinct hæmorrhages were revealed.

Dr. **Wylie** said that the diagnosis of extra-uterine pregnancy was often uncertain. In any case an explorative laparotomy was advisable, and was, in fact, the only method to be pursued after rupture had occurred. Electricity might kill the fœtus, but it did not insure the safety of the patient. Patients were treated by electricity who did not have extra-uterine pregnancy at all, as in a case of salpingitis cited in which a post-mortem was obtained.

Dr. **Engelmann** believed that the use of electricity was preferable, at least for general practitioners, in the early weeks of ectopic gestation; its use could hardly be attended with serious results.

Dr. **Coe** said that the idea had suggested itself to him, as well as to Dr. Johnstone, that Dr. Mann's specimen might be a small ovarian cyst. The diagnosis turned upon the presence of the placenta within the sac. How a placenta could exist except as a product of conception he could not understand; it would certainly be unique, even in a dermoid cyst. The speaker desired to add to the two cases of primary laparotomy credited to Dr. Price and Dr. Hawley one by the latter gentleman at which he had assisted. The patient was under observation for some time, and the diagnosis was confirmed by several gentlemen who saw the patient. There was a history of pain and collapse two or three weeks before the operation. On opening the abdomen, the sac was found surrounded by an old clot, although no rupture could be found. He agreed with Dr. Wylie that the diagnosis of this condition was often very uncertain; cases were recorded in which it was discovered when the trouble had been supposed to be pyosalpinx, and *vice versa.* When a patient was seen for the first time after rupture had taken place, and the previous history of the case was not clear, we could not decide positively whether there was a ruptured sac or an hæmatocele from other causes. He cited a case, which he had seen in consultation, which illustrated this difficulty.

Dr. **Kinloch** favored a radical operation, but thought that much depended upon the patient's environment and the skill of her attendant. There was danger to the woman as long as the sac remained within the abdomen, especially in the event of a subsequent pregnancy.

Dr. A. P. **Dudley**, of New York, thought that it was highly important for the younger men to have more precise rules for diagnosis. He cited the case of a patient who had every symptom which was ordinarily laid down as indicating the existence of extra-uterine pregnancy, associated with a tender mass on the left of the uterus. On performing laparotomy, he found an adherent tube and a small parovarian cyst. In such a case electricity would have been used to kill a fœtus which did not exist, and it would have been said that the patient was cured. Explorative laparotomy was such a safe and easy method of confirming the diagnosis that it was better to do it in every doubtful case.

Dr. **Mann** said that he could not understand how Dr. Johnstone could say that placental tissue might be found in a dermoid cyst. The absence of all trace of sinuses on the inner lining of the sac was due to the fact that the fœtus had been so long dead and the specimen was nearly destroyed before being placed in alcohol. He also questioned Dr. Johnstone's statement that the tendency was for the fœtus, after being killed, to form a lithopædion. The experience had been in these cases that the sac was gradually absorbed. So far from a lithopædion being dangerous, the speaker knew a woman who had had one for ten years, during which time she had borne three children. Dr. Dudley's case was rather an argument in favor of electricity, since laparotomy had been unnecessary.

Dr. Kelly had operated successfully at the fourth month for the removal of a tubal-gestation sac.

Dr. Janvrin said that he was inclined to doubt the statements regarding some of Mr. Tait's cases. He had carefully studied all the cases reported by that gentleman, and must confess that the details were often extremely meager. There was seldom anything said about the finding of a fœtus or placenta. There was otherwise no positive evidence that a case was not one of simple hæmatocele. The speaker agreed with Dr. Hanks that, if the general practitioner was to treat these cases, electricity was the best agent; but, for laparotomists, explorative incision was now so simple that it was better than any other procedure. It did not matter whether the condition was found to be extra-uterine pregnancy or enlargement of the tube and ovary.

Dr. Hanks reaffirmed his confidence in the value of electricity, especially for general practitioners. He had never heard of any case in which subsequent trouble had resulted after the destruction of the ovum before the third month. Beyond this time electricity should not be used, as there would of course be ill effects. It was highly important to recognize cases in which symptoms of rupture had appeared.

The following papers were read by title:

"In Memoriam—Dr. John Scott," by Dr. H. Marion-Sims, of New York; "Adenoma of the Fundus Uteri," by Dr. James R. Chadwick, of Boston; "The Value of the Operation of Shortening the Round Ligaments, from an Experience in Twenty-one Cases," by Dr. Paul F. Mundé, of New York; "Some Cases of Nerve-prostration, in which the Remote Effects of Anæsthesia by Ether were Bad," by Dr. William Goodell, of Philadelphia; "Cystocolpocele complicating Labor and Pregnancy," by Dr. Samuel C. Busey, of Washington; "The Infertility of Women," by Dr. Henry F. Campbell, of Augusta, Ga.; "Laparotomy for the Reduction of the Inverted Uterus," by Dr. Paul F. Mundé, of New York; "A Case of Subinvolution cured by the Removal of the Appendages," by Dr. Howard A. Kelly, of Philadelphia; "The Use of Chlorate of Potassium in Obstetrics," by Dr. Alexander Simpson, of Edinburgh; "Some Points Learned from an Experience of Thirty-four Ovarian Operations, with but one Death," by Dr. Joseph Taber Johnson, of Washington; "A Case of Extra-uterine Pregnancy," by Dr. B. F. Baer, of Philadelphia.

## Book Notices.

*Transactions of the Academy of Medicine in Ireland.* Vol. V. Edited by William Thomson, M. A., F. R. C. S., General Secretary, etc. Dublin: Fannin & Co., 1887. Pp. xxxv-367.

This volume makes a good showing for a society that has been in existence only four years. The number of interesting and scientific papers it embodies indicates a healthy activity of the members. Of the more important articles are to be mentioned: "A Case of Myxœdema," by Dr. C. J. Dixon; "Trephining of the Mastoid Process," by Mr. Henry Fitzgibbon; "Pylorus Resection," by Mr. J. S. McArdle; "Two Cases of Sarcoma of the Tonsil," by Mr. Henry Gray Croly; "Placenta Prævia," by Dr. R. H. Fleming; "Abscess of the Uterus opening at the Umbilicus," by Dr. J. R. Kirkpatrick; "Report of the Rotunda Hospital for the Three Years ending November 3, 1886," by Dr. J. L. Lane; "Case of a Liver with Two Gall-bladders," by Dr. J. M. Purser; "Aneurysm of the Abdominal Aorta in a Female," by Dr. A. W. Foot; "On the Prevalence and Distribution of Phthisis and other Diseases of the Respiratory Organs in Ireland," and "Varieties in the Mode of Origin of the Phrenic Nerve, with some Notes on Nerve Variations in the Superior Extremity," by Dr. H. St. John Brooks. We must express not a little disappointment with the papers on obstetrics from a center which used to be the teacher of the world in that branch of medicine, and which still has the Rotunda Hospital.

*Prescription Writing.* Designed for the Use of Medical Students who have never studied Latin. By Frederic Henry Gerrish, A. M., M. D., Professor of Anatomy, and formerly Professor of Materia Medica and Therapeutics, in Bowdoin College, etc. Seventh and Revised Edition. Portland: Loring, Short, and Harmen, 1888. Pp. 6-7 to 55. [Price, 50 cents.]

This little book will no doubt be found useful by those for whom it is intended. But we hope the day will soon be in the past when such an anomaly exists as "medical students who have never studied Latin."

### BOOKS AND PAMPHLETS RECEIVED.

Accidental Hæmorrhage in Labor. By Stanley P. Warren, M. D., Portland, Maine. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Phthisie laryngée. Par le Dr. A. Gouguenheim, médecin de l'hôpital Lariboisière, et de la clinique laryngologique, etc., et Paul Tissier, interne des hôpitaux de Paris. Avec 13 figures dans le texte et 5 planches hors texte dont 3 en chromolithographie. Paris: G. Masson, 1888. Pp. 11-339.

Physician's Pocket Day-book and Ledger combined. By Dr. S. L. Kilmer, South Bend, Ind.

The "Medical News" Visiting-list, 1889. Philadelphia: Lea Brothers & Co.

Annual Report of the Health Department of the City and County of San Francisco. For the Fiscal Year ending June 30, 1888.

Medical Communications of the Massachusetts Medical Society. Vol. xiv, No. 11, 1888.

A New Method of Feeding in Cases of Intubation of the Larynx; by Position, Head downward, on an Inclined Plane. By W. E. Casselberry, M. D., Chicago. [Reprinted from the "Chicago Medical Journal and Examiner."]

The Diagnosis and Treatment of Diseases of the Rectum. By William Allingham, Fellow of the Royal College of Surgeons of England. Edited and revised, with much additional New Matter and Numerous Diagrams, by Herbert W. Allingham, Fellow of the Royal College of Surgeons of England, etc. Fifth Edition. London: J. & A. Churchill, 1888. Pp. 16-366.

On the Treatment of Cystic Goître. By T. Mark Hovell, F. R. C. S. E. London: J. & A. Churchill, 1888. Pp. 5-26.

Report on Hydrophobia. By Charles W. Dulles, M. D., of Philadelphia. [Reprinted from the "Transactions of the Medical Society of the State of Pennsylvania."]

The Physician's Visiting List for 1889. Philadelphia: P. Blakiston, Son, & Co.

Clinical Lectures on Albuminuria. By Thomas Grainger Stewart, M. D. Edin., Fellow of the Royal College of Physicians of Edinburgh, etc. New York: William Wood and Company, 1888. Pp. xi-250.

Double Ovariotomy during Pregnancy; Subsequent Delivery at Term. By William Warren Potter, M. D., Buffalo, N. Y. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

A Manual of Dietetics for Physicians, Mothers, and Nurses. By W. B. Pritchard, M. D., New York City. Published by the Dietetic Publishing Co. Pp. 5–88. [Price, 50 cents.]

Mineral and Thermal Springs of California. By W. F. McNutt, M. D., M. R. C. S., etc., San Francisco, Cal. [Reprinted from the "Transactions of the Ninth International Medical Congress."]

Heart with Three Cavities. Partial Transposition of Abdominal Viscera. By M. Howard Fussell, M. D., of Manayunk, Philadelphia. [Reprinted from the "Medical News."]

Public Health Resorts *versus* Institutions for the Treatment of Bacillary Phthisis. By Paul H. Kretzschmar, M. D., of Brooklyn. [Reprinted from the "Medical Register."]

Thirty-third Annual Report of the Government Hospital for the Insane, to the Secretary of the Interior, 1888.

Proceedings of the Academy of Natural Sciences of Philadelphia. Part II. March–September, 1888.

On an Experimental Demonstration of the Value of Gaseous Enemata in the Diagnosis of Perforations of the Intestines, and their Repair by the Rubber Ring and Decalcified Bone Plate Method. By B. Harvey Reed, M. D., Mansfield, O. [Reprinted from the "Transactions of the Ohio State Medical Society."]

The President's Annual Address. By Robert Battey, M. D., of Rome, Georgia. [Reprinted from the "Transactions of the American Gynæcological Society."]

Estudio Clínico de los Tumores de la Vejiga. Par el Doctor Alejandro Settier, Director de la Gaceta de Enfermedades de los Órganos genito-urinarios. Madrid, 1888.

Cæsarean Section, necessitated and justified by Hypertrophic Elongation of the Cervix; Removal of a Living Female Child of Seven Pounds' Weight. By Jno. S. Coleman, M. D., Augusta, Georgia. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Local Treatment of Diphtheria. By J. Henry Fruitnight, A. M., M. D., New York. [Reprinted from the "Archives of Pædiatrics."]

Why Electrolytic Treatment of Stricture does not succeed in all Hands. By G. C. H. Meier, M. D., Member of the New York State Medical Association. [Reprinted from the "International Journal of Surgery and Antiseptics."]

The Contagiousness of Phthisis (Tubercular Pulmonitis). By Lawrence F. Flick, M. D., of Philadelphia. [Reprinted from the "Transactions of the Medical Society of the State of Pennsylvania."]

Report on Animal Vaccination. By Henry A. DuBois, Ph. B., M. D., of San Rafael, California.

The Chemical Factor in Disease. By Hugh Hamilton, M. Sc., M. D., of Harrisburg. [Reprinted from the "Transactions of the Medical Society of the State of Pennsylvania."]

The Chemical Philosophy in Remedy. By Hugh Hamilton, M. Sc., M. D., of Harrisburg. [Reprinted from the "Transactions of the Ninth International Medical Congress."]

Experimental Researches respecting the Relation of Dress to Pelvic Diseases of Women. By J. H. Kellogg, M. D., Battle Creek, Mich. [Reprinted from the "Transactions of the Michigan State Medical Society."]

Nystagmus in Connection with Diseases of the Ear. By Charles J. Kipp, M. D., Newark, N. J. [Reprinted from the "Transactions of the American Otological Society."]

The Treatment of Heart Disease. By James Barr, M. D., Physician, Northern Hospital, Liverpool, etc. [Reprinted from the "Liverpool Medico-chirurgical Journal."]

Transactions of the Louisiana State Medical Society at its Tenth Annual Session, held at Monroe, La., April 25 and 26, 1888.

Inebriate Asylums and their Work. By T. D. Crothers, M. D., Superintendent of Walnut Lodge, Hartford, Conn.

Description of a Case of Coloboma of the Iris, Lens, and Chorioid; with a Study of the Visual Fields. By Charles A. Oliver, M. D., Philadelphia, Pa. [Reprinted from the "Transactions of the American Ophthalmological Society."]

A Case of Typhlitis, with Double Perforation of the Cæcum, and Peritonitis, in which Laparotomy and Suture of the Gut were followed by Recovery. By L. S. McMurtry, A. M., M. D., of Danville, Ky. [Reprinted from the "Journal of the American Medical Association."]

Transactions of the Colorado State Medical Society, Eighteenth Annual Convention, Colorado Springs, June, 1888.

The Sixty-sixth Annual Report of the Montreal General Hospital, with a List of the Governors, Officers, and Subscribers. For 1887–'88.

The Treatment of Peritonitis by Abdominal Section. Some Illustrative Cases. [Read before the Kentucky State Medical Society, July 12, 1888.] By L. S. McMurtry, A. M., M. D., etc.

Contribuzione alla casuistica della tuberculosi dello stomaco. Pel Dott. Alessandro Serafini. [Estratto degli "Annali clinici dell' Ospedale degl' Incurabili."]

Commotion, contusion, tétanos, syphilis et traumatisme. Par le Dr. A. Verneuil, Membre de l'institut, professeur de clinique chirurgicale à la faculté de médecine de Paris, etc. Paris: G. Masson, 1888. Pp. 111–897. ["Mémoires de chirurgie," tome cinquième.]

La mort par la décapitation. Par le Dr. Paul Loye, Préparateur du laboratoire de physiologie de la Sorbonne, etc. Préface de M. le Dr. P. Brouardel, Professeur de médecine légale et doyen de la faculté de médecine de Paris. Paris: Lecrosnier et Babé, 1888. Pp. 8–285. [Publications du "Progrès médical."]

Hunterian Lectures on Tension, as met with in Surgical Practiçe, Inflammation of Bone, and on Cranial and Intracranial Injuries. Delivered before the Royal College of Surgeons of England, June, 1888. By Thomas Bryant, F. R. C. S., M. Ch. (Hon.) Roy. Univ. I., etc. London: J. & A. Churchill, 1888. Pp. 146.

Lectures on Ectopic Pregnancy and Pelvic Hæmatocele. By Lawson Tait, F. R. C. S. Edin. & Eng., LL. D., etc. Birmingham: The "Journal" Printing Works, 1888. Pp. 3–107.

The Vest-pocket Anatomist (founded upon "Gray"). By C. Henri Leonard, A. M., M. D., etc. Fourteenth Revised Edition. Containing Dissection Hints and Visceral Anatomy. Detroit: The Illustrated Medical Journal Co., 1888. Pp. 5–297. [Price, $1.]

Considerações sobre a lepra, e sua influencia na pathogenia das molestias das vias respiratorias. Pelo Dr. Tiberio d'Almaida. [Publicações da "União medica."]

Pathologie und Therapie der Alopecia areata. Von A. R. Robinson, M. B., L. R. C. P. & S. Edin., Professor der Dermatologie an der New Yorker Poliklinik, etc. [Sonder-Abdruck aus "Monatshefte für praktische Dermatologie."]

The Radical Cure of Varicocele, attended with Redundancy of Scrotum, demonstrated by Time. By Morris H. Henry, M. A., M. D., LL. D., etc. [Reprinted from the "Journal of the American Medical Association."]

Report of the Board of Trustees of the Eastern Michigan Asylum, at Pontiac. For the Biennial Period ending June 30, 1888.

Lectures to Practitioners on the Diseases of the Kidney amenable to Surgical Treatment. By David Newman, M. D., Surgeon to the Western Infirmary (Out-door Department); Pathologist to and Lecturer on Pathology at the Glasgow Royal Infirmary, etc. London: Longmans, Green, & Co., 1888. Pp. xv–472.

The Son of a Star. A Romance of the Second Century. By Benjamin Ward Richardson. New York: Longmans, Green, & Co., 1888. Pp. 11–470.

Alpine Winter in its Medical Aspects; with Notes on Davos Platz, Wiesen, St. Moritz, and Maloja. By A. Tucker Wise, M. D., L. R. C. P., M. R. C. S., etc. Fourth Edition. London: J. & A. Churchill, 1888. Pp. vi–9 to 160.

The Pedigree of Disease. Being Six Lectures on Temperament, Idiosyncrasy, and Diathesis, delivered in the Theatre of the Royal College of Surgeons in the Session of 1881. By Jonathan Hutchinson, F. R. S., etc. Lectures on the Treatment of the Common Diseases of the Skin. By Robert M. Simon, M. D. Cantab., M. R. C. P. London. Clinical Lectures on the Varieties and the Treatment of Bronchitis. By Dr. Ferrand, Physician to the Laënnec Hospital, etc. New York: W. Wood & Co., 1888. Pp. 2–5 to 259. [Wood's Medical and Surgical Monographs.]

A Treatise on Hysteria and Epilepsy, with some Concluding Observations on Epileptic Insomnia. By J. Leonard Corning, M. A., M. D., etc. Detroit: John S. Davis, 1888. Pp. viii–176. [The Physician's Leisure Library.]

Curabilidad del ictero grave primitivo. Tesis para el doctorado presentada y sostenida el 18 de Setiembre de 1888 por Emilio Martinez y Martinez. Habana: Alvarez y Compañia, 1888.

Improprieties of Dress an Important Ætiological Factor in Many of the Diseases peculiar to Women. By Sebastian J. Wimmer, M. A., M. D. St. Mary's, Pa. [Reprinted from the "Medical Register."]

Report of Proceedings of the Conference of Local Health Officials held by Invitation of the State Board of Health of Missouri, at St. Louis, December 4, 1888.

The Homing Instinct. An Explanation suggested. By George M. Gould, M. D. [Reprinted from "Progress."]

The Psychological Influence of Errors of Refraction and their Correction. By George M. Gould, M. D., Philadelphia. [Reprinted from the "Medical and Surgical Reporter."]

A New Style of Bi-focal Lenses. By George M. Gould, M. D., Philadelphia. [Reprinted from the "Medical and Surgical Reporter."]

A Peculiar Case of Herpes zoster ophthalmicus, Serous Iritis, or "Ophthalmo-neuritis." By George M. Gould, M. D. [Reprinted from the "Polyclinic."]

Is the Electric Light Injurious to the Eyes? By George M. Gould, M. D., Philadelphia. [Reprinted from the "Medical News."]

Repression of Menstruation as a Curative Agent in Gynæcology. By Eugene C. Gehrung, M. D., St. Louis. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Nineteenth Annual Report of the Manhattan Eye and Ear Hospital, September 30, 1887, to October 1, 1888.

Third Annual Report of the New York Post-graduate Hospital, including the Babies' Ward. For the Year ending May 1, 1888.

Valves in the Veins of the Human Intestines. By W. S. Bryant, A. M., M. D. [Reprinted from the "Boston Medical and Surgical Journal."]

Transactions of the American Otological Society. Twenty-first Annual Meeting, Pequot House, New London, Conn., July 17, 1888. Vol. IV. Part 2.

The Influence of Morbid States or Conditions of the Body on Local Diseases. By H. Christopher, M. D., St. Joseph, Mo. [Reprinted from the "St. Joseph Medical Herald."]

Relations of certain Meteorological Conditions to Diseases of the Lungs and Air-passages as shown by Statistical and other Evidence. By Henry B. Baker, A. M., M. D., of Lansing, Mich. [Reprinted from the "Annual Report of the Michigan State Board of Health," for the Year 1888.]

Malaria and the Causation of Periodic Fever. By Henry B. Baker, M. D., of Lansing, Mich. [Reprinted from the "Journal of the American Medical Association."]

State Board of Health. Report of Willis G. Tucker, M. D., Ph. D., Analyst of Drugs. [Extract from the Eighth Annual Report.]

The Introductory Address to the Eighth Lecture Course of the Albany College of Pharmacy. Delivered October 1, 1888, by Willis G. Tucker, M. D., Ph. D., Professor of Chemistry.

Report of the Chief of the Bureau of Medicine and Surgery to the Secretary of the Navy, 1888.

Inflation of the Stomach with Hydrogen Gas in the Diagnosis of Wounds and Perforations of this Organ. With the Report of a Case. By N. Senn, M. D., Ph. D., of Milwaukee, Wis. [Reprinted from the "Medical News."]

Diseases of the Nose and Pharynx and their Treatment. By W. Cheatam, M. D., Louisville, Ky. [Reprinted from the "Virginia Medical Monthly."]

Double Chorio-retinitis with Partial Degeneration of the Optic Nerve, associated with Curious Lymph Extravasation into the Retina and Vitreous. By Charles A. Oliver, M. D., Philadelphia. [Reprinted from the "Transactions of the American Ophthalmological Society," 1887.]

Hæmorrhoids and their Treatment. By G. H. Kirwan, M. D., Wilkesbarre, Pa. [Reprinted from the "Medical and Surgical Reporter."]

Two Cases of Gunshot Wound of the Abdomen illustrating the Use of Rectal Insufflation with Hydrogen Gas as a Diagnostic Measure. By N. Senn, M. D., Ph. D., of Milwaukee, Wis. [Reprinted from the "Medical News."]

## Miscellany.

**The Northwestern Medical and Surgical Society** has elected officers for the ensuing year as follows: Dr. A. M. Jacobus, president; Dr. S. Baruch, vice-president; Dr. E. S. Peck, secretary.

**The New York Academy of Medicine.**—At the next meeting of the Section in Neurology, on Friday evening, the 11th inst., Dr. L. C. Gray will present "A Case of Locomotor Ataxia" and "A Case of Central Myelitis," each with specimens.

**Change of Address.**—Dr. Thomas Linn, the well-known American physician of Paris, has changed his residence to No. 16, rue de la Paix

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

THE NEW YORK MEDICAL JOURNAL, January 12, 1889.

## Original Communications.

### A SECOND SERIES OF
### ONE HUNDRED CONSECUTIVE OPERATIONS
### SHOWING THE
### RESULTS OF ANTISEPTIC METHODS OF WORK.

By ROBERT T. MORRIS, M. D.,
INSTRUCTOR IN SURGERY AT THE POST-GRADUATE MEDICAL SCHOOL, NEW YORK.

As the object of presenting this list of histories is chiefly to show the effect of certain methods of wound treatment which were employed in the management of the cases, it seemed advisable to omit from the "consecutive" list such of my minor operations as tapping the chest, abdomen, joints, and head; divulsions of the cervix uteri and of the male urethra; straightening deviated nasal septa; circumcision, amygdalotomy, tenotomy, opening acute abscesses, suturing small accidental wounds, small operations for recurrent malignant growths, and short incisions in cases of small tumors, warts, moles, and nævi. The general antiseptic method employed consisted of the following details: The patient's skin in the field of operation was shaved and scrubbed with 1-to-1,000 bichloride-of-mercury solution. Towels wrung out in this solution were so arranged that hands and instruments engaged in the operative work would touch nothing that was not sterilized. Hands were washed in the same solution before work began, and wounds were flushed from time to time during the course of operation with 1-to-2,000 bichloride-of-mercury solution. The sponges that were used had been simply cleaned and stored in 1-to-20 carbolic-acid solution.

No other material besides catgut was used for any suture or ligature, and a perusal of the subjoined cases will show that this material was put to the most severe tests. Chromic catgut was used for operations upon the perinæum and cervix uteri, for suturing abdominal walls, and for wounds in a few other places where coaptation by sutures for a period of more than a week was desirable. For almost all other suturing and ligating, catgut prepared according to Kocher's method * was used.

Drains were of catgut or of absorbable bone; but I have used less and less drainage-apparatus, and now seldom employ it at all in aseptic wounds.

Dressings consisted of a sprinkling of iodoform along the line of sutures, a strip of sterilized Lister oiled silk next the wound region, a large wad of bichloride gauze or cotton to catch and dry exuded serum and lymph, and finally a gauze bandage to hold the rest of the dressing snugly. Fourteen days was the length of time that a dressing was usually allowed to remain before removal.

Instruments were soaked in 1-to-20 carbolic-acid solution for at least fifteen minutes before being used, and they were carefully cleaned afterward. All of my instruments are boiled occasionally, to remove any suspicion of danger.

Special features of the antiseptic work were the application of iodoform from day to day on wounds which for any reason could not be covered by bulky dressings—as the wound after removal of piles, for instance—and the particular method which was employed in intra-urethral operations. In preparing for internal urethrotomy, the circulation was cut off from the penis until the four or five minims of ten-per-cent. cocaine solution injected with a hypodermic syringe anywhere into the tissues of the penis had removed sensibility. The urethra anterior to the triangular ligament was then washed out with 1-to-5,000 bichloride solution, and the urethrometer and urethrotome, taken out of carbolic-acid solution, were lubricated with a solution of equal parts of boroglyceride and glycerin. Hæmorrhage was controlled by external pressure, and the urine was made to act as an antiseptic wash by keeping it loaded with boric acid given internally. Patients kept about their work after such treatment and did not consider themselves as invalids.

The physical condition of patients was not usually taken into consideration in preparing for the operations of various sorts, as under antiseptic methods of operating and modern plans for controlling shock it is advisable, as a rule, to operate first, in order to get the patient in such condition that he can improve physically afterward.* This is the reverse of the former plan, of laboring first to get the patient into better physical condition in order that the operation may be better borne afterward. The kidneys were the only organs examined with reference to the expected influence of anæsthetics, and chloroform was substituted for ether when nephritis was discovered.

In very few of the cases did the temperature reach 100° F. at any time during the interval between operation and recovery.

The majority of the patients were operated upon at their own homes in various towns in New York and New England, and the cases, left to the care of the physicians who had kindly invited me to operate, were practically as well cared for as they would have been at the hospital in the city. In only one of the cases, that of exsection of intestine for cancer of the caput coli, did I regret that hospital facilities for managing the condition of shock were wanting.

The word "recovery" in the following list refers to the operative wound rather than to the case as a whole. In some of the cancer cases the disease has reappeared, and consequently the word could not properly be applied in its full meaning.

### Notes.

In the case of closed jaws (No. 2) the ankylosis followed parotitis of scarlatina three years previously. I could not do Mears's operation on account of the smallness of the buccal cavity, and was consequently obliged to make an external incision along the inferior border of the zygomatic process. The case illustrates very well the fact that a joint may remain at rest for a long period without becoming ankylosed, as the child opened her mouth to nearly if

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* Raw catgut placed in oil of juniper for three or four days, and then transferred to a bottle of commercial alcohol, from which the gut was used.

* Sentiment first expressed by Stephen Smith.

## HEAD AND NECK.

| No. | Name, age, and sex. | Case. | Operation. | Intermediate result. | Final result. |
|---|---|---|---|---|---|
| 1 | H. P., 10, M. | Compound depressed fracture of skull, left frontal region. | Long incision; elevation; removal of fragments size of half-dollar. | Primary union. | Recovery. |
| 2 | E. T., 12, F. | Closed jaws; bony ankylosis, right side. | Exsection of condyle and coronoid process. | Primary union, except drainage-opening. | Recovery. |
| 3 | H.W.,42,M. | Epithelioma of lower lip. | Removal of V-shaped segment. | Primary union. | Recovery. |
| 4 | M. M., 4, M. | Double hare-lip, cleft palate; projecting Wolffian bone with four teeth. | Repair of lip by Phelps's incision; removal of Wolffian bone; obturator for palate to be made. | Primary union. | Recovery; straight lip-line. |
| 5 | F. D., 8 mo. | Single hare-lip to nostril. | Repair by Phelps's incision. | Primary union. | Recovery; straight lip-line. |
| 6 | F., 60, F. | Chronic neuralgia of inferior dental nerve. | Letievant's operation; ¾ inch of nerve removed. | Granulation. | Recov'y; neuralgia ceased; nearly year elapsed. |
| 7 | H. J., 40, F. | Multiple fibro-sarcoma of neck, left, involving large blood-vessels. | Long incision; removal of tumor; ligation of int. and ext. carotids and int. jugular. | Primary union, except at drainage-opening. | Recov'y. Apparently complete temporary anæmia of left brain hemisphere |
| 8 | S., 1½, M. | Diphthèria. | Tracheotomy. | Wound left open. | Relief from dyspnœa; death 24 hrs. later from extension to lungs. |
| 9 | M. M., 18, F. | Tuberculous adenitis of neck, right side. | Long incisions; caseous glands enucleated. | Primary union. | Recovery. |
| 10 | M. M., 19, F. | Tuberculous adenitis of neck, left side principally. | Long incisions. | Primary union, except one small wound left open. | Recovery. |
| 11 | W. B., 41, M. | Recurrent cancer of neck. | Long incision; removal of enlarged glands. | Primary union. | Recovery. |
| 12 | W. B., 41, M. | Recurrent cancer of neck. | Long incision; removal of indurated tissue; partial ligation of opened int. jugular vein. | Primary union. | Recovery; died 6 months later. |
| 13 | C. G., 50, M. | Recurrent cancer of neck. | Long incision; dissection of indurated tissues. | Primary union, except at drainage-opening. | Recovery; died 3 months later. |
| 14 | G. K., 9, M. | Idiopathic epilepsy. | Ligation of both vertebral arteries. | Primary union. | Recovery, with no effect on epilepsy. |
| 15 | S., 30, F. | Single sarcoma of neck. | Long incision; removal of tumor, hen's-egg size. | Primary union. | Recovery. |
| 16 | F., 32, F. | Necrosis of perpendicular plate of ethmoid, tri-cartilage, vomer. Disappearance of nose. | Restoration of nose; flaps from cheeks. | Primary union. | Recovery. |
| 17 | L. M., 78, M. | Large protuberant epithelioma of nose. | Removal. | Granulation. | Recovery. |
| 18 | Clinic, 20, F. | Lobes of ears split and gaping. | Plastic operation. | Primary union. | Recovery. |
| 19 | E. B., 33, M. | Fibroma of whole nuchal region. | Long incision; removal of all portions that could be enucleated. | Granulation; had to be left open. | Recovery. |

## EXTREMITIES.

| | | | | | |
|---|---|---|---|---|---|
| 20 | L. T., 3, F. | Bow-legs. | Chiseled through just below tuberosities of tibiæ; fibulæ fractured. | Primary union. | Recovery; straight legs. |
| 21 | H., 4, M. | Bow-legs. | Similar to preceding case. | Prim. union, except where dressing slipped on part of left leg. | Recovery; straight legs. |
| 22 | Clinic, 8, F. | Bow-leg. | V-shaped segment from greatest convexity of femur. | Primary union. | Recovery; little gain. |
| 23 | Clinic, 2, M. | Club-foot; talipes equino-varus of left. | Phelps's open incision. | Healing by clot-replacement. | Recovery; straight foot; apparatus applied. |
| 24 | T. U., 6, M. | Club-foot; talipes equino-varus of both. | Phelps operated by invitation; open incision. | Healing by clot-replacement. | Recovery; straight feet; apparatus applied. |
| 25 | W. C., 14, M. | Club-foot; contracted ham-strings | Tenotomy of Achilles tendon; all ham-strings cut through long incis. | Primary union. | Recovery; apparatus. |
| 26 | B. D., 46, M. | Varicose veins; varicose ulcer; large. | Long incision from ankle to knee, internal; long external incision; veins dissected out; flap turned over ulcer site. | Primary union of sutured part; part of ulcer left uncovered granulated. | Recovery. |
| 27 | M., 18, F. | Bunions. | Bursæ dissected out. | Primary union. | Recovery. |
| 28 | F., 45, M. | Abscess of whole calf of leg. | Long incision. | Primary union, except at drainage-opening. | Recovery. |
| 29 | G., 30, M. | Dermoid cyst of right buttock. | Incision 3 ins. long; removal of cyst-wall and bunch of hair. | Primary union. | Recovery. |

## TRUNK, UPPER SEGMENT.

| | | | | | |
|---|---|---|---|---|---|
| 30 | V., 26, F. | Phlegmonous abscess of axilla and chest. | Long incision. | Granulation. | Recovery. |
| 31 | K., 26, F. | Sarcoma of left breast. | Amputation of breast; axilla clean'd out. | Primary union. | Recovery. |
| 32 | H., 42, F. | Recurrent cancer of axilla and supra-clavicular space, left side. | Long incisions; removal of growths; ligated axillary vein. | Primary union. | Recovery. |
| 33 | H., 42, F. | Recurrent cancer of axilla and supra-clavicular space, right side. | Long incisions; removal of growths. | Primary union. | Recovery. |
| 34 | K. R., 61, F. | Carcinoma of left breast. | Amputation of breast; axilla cleaned out. | Primary union, except 2 ins. left to granulate. | Recovery. |
| 35 | S., 50, F. | Carcinoma of right breast. | Amputation of breast; axilla cleaned out. | Primary union, except small part. | Recovery. |

TRUNK, UPPER SEGMENT—(*Concluded*).

| No. | Name, age, and sex. | Case. | Operation. | Intermediate result. | Final result. |
|---|---|---|---|---|---|
| 36 | U., 8, F. | Lipoma of right breast. | Incision 2 inches; removal of tumor. | Primary union. | Recovery. |
| 37 | H. M., 36, F. | Lipoma below right breast. | Incision 3 inches; removal of tumor. | Primary union. | Recovery. |
| 38 | W. van N., 45, F. | Lipoma of right shoulder. | Long incision; removal of tumor, 1½ pounds. | Primary union. | Recovery. |
| 39 | W. H., 33, M. | Tuberculous adenitis and fistula of axilla. | Incision 3 inches; removal of glands. | Primary union, except at drainage-opening. | Recovery. |
| 40 | H. McF., 6, M. | Empyema. | Incision; drainage. | Granulation. | Recovery. |
| 41 | J. P., 22, M. | Bullet-wound of chest; cavity full of blood and pus; no air. | Incision; drainage. | Granulation. | Recovery. |

TRUNK, LOWER SEGMENT.

| No. | Name, age, and sex. | Case. | Operation. | Intermediate result. | Final result. |
|---|---|---|---|---|---|
| 42 | H., 25, F. | Ovarian cysts. | Laparotomy; drainage. | Primary union, except at drainage-opening. | Recovery. |
| 43 | C., 38, F. | Parovarian cyst, left; weight, 8 lbs. | Laparotomy; removal of tumor. | Primary union. | Recovery. |
| 44* | H., 60, F. | Ovarian cyst, right; weight, nearly 50 lbs.; two pediculated fibroids of uterus. | Laparotomy; removal of all tumors. | Primary union. | Recovery. |
| 45 | C., 13, F. | Fibroma of falciform ligament of liver; weight, 5 ounces. | Laparotomy; removal of tumor. | Primary union. | Recovery. |
| 46 | M., 26, F. | Pyosalpinx; ovaritis; left. | Laparotomy; removal of ovary and tube; drainage. | Primary union, except ab't drainage-opening. | Recovery. |
| 47 | S., 25, F. | Cystic ovary, left. | Laparotomy; removal of ovary and tube. | Primary union. | Recovery. |
| 48 | H., 40, F. | Cystic ovary, left. | Laparotomy; removal of ovary and tube. | Primary union. | Recovery. |
| 49 | B., 38, F. | Cystic ovaries; lacerated cervix uteri. | Laparotomy; removal of ovaries and tubes; cervix repaired at same sitting. | Primary union of all wounds. | Recovery. |
| 50 | R. R., 42, M. | Intra-abdominal sac following abscess of liver; fistula. | Laparotomy; removal of lining membrane of sac and concretions. | Primary union, except at fistulous opening. | Recovery. |
| 51 | E. B., 22, F. | Parovarian cyst, left; weight, 16 lbs. | Laparotomy; removal of tumor, ovary, and tube. | Primary union of greater part of wound. | Recovery. |
| 52 | H., 28, F. | Ovarian cysts; left, size of small hen's egg; right, size of English walnut. | Laparotomy; removal of both ovaries and tubes. | Primary union, except where skin sloughed under one suture. | Recovery. |
| 53 | F. T., 34, F. | Pyogenic sac, following empyema, extending to liver intra-abdominally, nearly to crest of ilium extra-abdominally. | Laparotomy; long external incision; lining membranes of sacs removed. | Primary union, except at drainage-opening, but lower part of old sac suppurated later. | Recovery. |
| 54 | T., 39, F. | Cancer of cervix uteri. | Laparotomy; removal of uterus by way of vagina. | Primary union of all w'nds except small vaginal drainage-opening. | Recovery. |
| 55 | S. F., 50, F. | Cancer of caput coli. | Laparotomy, exploratory. | Primary union except about fistulous opening. | Recovery. |
| 56 | S. F., 50, F. Month later. | Cancer of caput coli. | Laparotomy; exsection of one foot of intestine. | ........................ | Death from shock. |
| 57 | A. K., 38, M. | Perityphlitis; septicæmia. | Laparotomy; evacuation of 3 ozs. greenish pus and necrotic appendix; drainage. | No union. | Death six days later from septicæmia. |
| 58 | C., 20, M. | Perityphlitis; septicæmia. | Long incision not including peritonæum; evacuation of 2 quarts of pus and fæces, and necrotic appendix; wound left open. | No attempt at repair by nature. | Death three weeks later from septicæmia. |
| 59 | E., 58, F. | Femoral hernia; large irreducible sac. | Macewen's operation; sac folded up; canal sutured together. | Primary union. | Recovery. |
| 60 | M., 33, F. | Old ruptured perinæum, third degree; piles. | Repair of perinæum; piles ligated and removed. | Primary union of perinæ'm; granulation of pile-w'nds. | Recovery. |
| 61 | G., 30, F. | Old ruptured perinæum, second degree. | Repair of perinæum. | Primary union. | Recovery. |
| 62 | T., 30, F. | Old ruptured perinæum, second degree; laceration of cervix uteri bilateral; piles; fissures of anus. | Repair of perinæum and cervix; ligation and removal of piles; floors of fissures rent. All at one sitting. | Primary union of all of perinæum, but only half of cervix; pile and fissure wounds granulated. | Recovery. |
| 63 | B., 56, F. | Vaginal cystocele. | Ellipse of mucous membrane removed from protruding part. | Spasm tore stitches out in few hours; granulation. | Recovery. |
| 64 | B., 56, F. | Vaginal cystocele two months later. | Ellipse of mucous membrane from protruding part. | Primary union. | Recovery. Still has some cystocele. |
| 65 | B., 42, F. | Bilateral lacerat'n of cervix uteri. | Repair of gaps. | Primary union. | Recovery. |
| 66 | I. L., 26, F. | Fibroid of left labium major. | Incision 2½ inches long. | Wound left open; granulated. | Recovery. |
| 67 | W., 35, F. | Stricture of rectum following tuberculous ulcer. | Divulsion of 3½ inches of rectum; tuberculous tissue scraped out. | Granulation. | Recovery. Death nearly year later, from tuberculosis of lungs. |
| 68 | Van O., 40, F. | Fistula in ano; wide pocket, 4 inches deep. | Long incision; pyogenic membrane dissected out; deep sutures. | Primary union, except ab't external drainage-op'ning. | Recovery. |
| 69 | M., 19, F. | Fistula in ano; tuberculous ulcer. | Long incision; pyogenic membrane and ulcer removed; sutures. | Primary union, except at external drainage. | Recovery. |

* Previously reported in "New England Medical Monthly."

TRUNK, LOWER SEGMENT—(*Concluded*).

| No. | Name, age, and sex. | Case. | Operation. | Intermediate result. | Final result. |
|---|---|---|---|---|---|
| 70 | W., 43, F. | Fistula in ano. | Removal of pyogenic membrane; sutures. | Primary union. | Recovery. |
| 71 | D. W., 22, M. | Multilobular papillary tumor of anus, fist size. | Removal of tumor. | Granulation of wound (left open). | " |
| 72 | P., 2, F. | Imperforate anus; rectum had small opening into vagina only. | Incision from vagina to coccyx; end of gut brought down and sutured in proper place; vagina and perineal body built up. | Primary union, except where two stitches gave way. | " |
| 73 | H. B., 47, M. | Internal piles. | Ligation and removal. | Granulation. | " |
| 74 | T., 35, M. | Internal and external piles. | Ligation and removal. | Granulation. | " |
| 75 | S., 36, M. | Internal piles. | Ligation and removal. | Granulation. | " |
| 76 | C., 64, F. | Coccygodynia. | Removal of coccyx by long incision. | Primary union. | Recovery; relief from symptoms. |
| 77 | B., 40, M. | Varicocele, very large. | Excision of mass of veins by long incision. | Primary union. | Recovery. |
| 78 | J. F., 52, M. | Fibroid induration of penis. | Amputation of half of penis. | Primary union. | " |
| 79 | H., 49, M. | Hydrocele of left tunica vaginalis; sac "cured by injection"; was as large as a turkey's egg, and solid. | Removal of sac and atrophied testicle. | Primary union, except at drainage-opening. | " |
| *80 | C. C., 12, M. | Hydrocele of left tunica vaginalis; right testicle undescended. | Removal of sac entire and unbroken, without injury to testicle or cord. | Primary union. | " |
| 81 | H., 35, M. | Hydrocele of left tunic, size of large hen's egg; and of right tunic, size of butternut. | Von Bergmann's operation through one incision. | Primary union, except at drainage-opening. | " |
| 82 | B., 40, M. | Close stricture behind triangular ligament; anterior stricture at 4½ inches. | External perineal urethrotomy, without guide; internal urethrotomy. | Granulation; wound left open. | " |
| 83 | F. S., 36, M. | Close stricture at triangular ligament; infiltration of urine into perinæum and buttocks. | External perineal urethrotomy; no guide; long incisions in buttocks. | Granulation; closure of all wounds except small pyogenic fistula of buttock. | Recovery; pyogenic fistula remained until death 5 months later, from tuberculosis of lungs. |
| 84 | E., 21, M. | Hypospadias; urethra undeveloped for 2½ ins., leaving very narrow, inelastic channel. | Internal urethrotomy. | Granulation. | Recovery. |
| 85 | M. S., 16, F. | Pelvic abscess; small opening into neck of bladder. | Urethra dilated; abscess cavity widely dilated at opening; drainage. | " | " |
| 86 | R. K., 35, M. | Urethral strictures at 2½ and 4 ins. from meatus. | Internal urethrotomy, including meatus. | " | " |
| 87 | N., 26, M. | Strictures at 1½ and 4½ ins. | " " " | " | " |
| 88 | E. S., 26, M. | Strictures at 1 and 3 ins. | " " " | " | " |
| 89 | B., 23, M. | Strictures at 1½ and 4 ins. | " " " | " | " |
| 90 | Clinic, 25, M. | Strictures at 2 and 3½ ins. | " " " | " | " |
| 91 | W. N., 32, M. | Strictures at 1½ and 4 ins. | " " " | " | " |
| 92 | K., 43, M. | Strictures at 2½ and 4¾ ins. | " " " | " | " |
| 93 | Clinic, 30, M. | Strictures at 2½ and 4 ins. | " " " | " | " |
| 94 | F. D., 44, M. | Strictures at 1½ and 3 ins. | " " " | " | " |
| 95 | G., M. | Strictures at 1½ and 4 ins. | | | |
| 96 | B. B., 32, M. | Stricture at 3¾ ins. | " " " | " | " |
| 97 | F., 45, M. | Stricture at 3 ins. | " " " | " | " |
| 98 | E. A., 26, M. | Stricture at 2½ ins. | " " " | " | " |
| 99 | H., 34, M. | Stricture at 4 ins. | " " " | " | " |
| 100 | T., 37, M. | Stricture at 3½ ins. | " " " | " | " |

SUMMARY.

| | |
|---|---|
| Whole number | 100 |
| Cases in which an attempt at gaining primary union was made | 64 |
| Cases in which primary union was obtained in the whole or greater part of the wound (exceptions, Nos. 57, 63, and 56) | 61 |
| Cases in which the wounds were purposely allowed to heal by granulation | 46 |
| Cases with intercurrence of pyæmia, septicæmia, erysipelas, or tetanus | 0 |
| Deaths resulting from operation (No. 56) | 1 |

* Previously reported in "New England Medical Monthly."

not quite its full normal extent on coming out of the ether, and the articulation of the left side continued to fulfill its function without trouble afterward.

In the case of multiple sarcoma of the neck (No. 7) the walls of the large blood-vessels were involved in the substance of the new growth, and, being situated deeply out of sight, it was not possible to ligate them before removal of the larger part of the tumor. In trying to separate the external carotid with my finger the brittle walls gave way, and, placing one finger upon the spouting openings, an attempt was made to rotate the tumor so that the vessel could be ligated. This movement ruptured the internal carotid artery and the internal jugular vein at their points of entrance. All of the opened vessels being out of sight, there was a furious rush of blood for an instant until I had placed a finger on each opening. The assistants, Dr. Wheeler and Dr. Hill, of Farmerville, N. Y., then separated the tumor from its attachments and the vessels were ligated. No external jugular vein could be found, and the blood circulation to the left hemisphere must have been limited to the vertebral and profunda cervicis vessels. After the operation the entire right side of the body was paralyzed. The patient recovered the use of the right leg so that she could walk quite well a month later. The right arm and the muscles of the right side of the face are recovering more slowly. She has not recovered her normal mental condition and is simple, using only a few words in conversation.

The club-foot cases (Nos. 23 and 24) illustrate the advantages of the new method of working for clot replacement instead of primary union or granulation. On removing the dressings, the clots, which were purposely allowed to fill the gaping wounds, had formed strong new tissue, and this was covered with epithelium.

Case 32 is interesting in view of the fact that no harm followed ligation of the axillary vein. Dr. Kirkendall, of Ithaca, N. Y., who had charge of the case, writes me that the veins of the arm stood out very prominently for a few days, but that full collateral circulation was soon established.

It requires some courage to direct particular attention to one's mistakes, but case No. 42 is too instructive to pass by without notice. The patient belonged to a markedly tuberculous family. Her abdomen contained several pints of fluid, and she was emaciating rapidly. The subjective symptoms and objective signs led me to make a diagnosis of tuberculosis of the peritonæum—in which diagnosis the family physician concurred. I withdrew the fluid with a trocar and cannula and found it to be of the grayish opaque color characteristic of the fluid of tuberculous peritonitis. I made an exploratory incision; found that the peritonæum looked normal, but that a peculiar mass low down in the pelvis among adherent intestines might pass for tuberculosis of the ovaries and tubes until a better diagnosis was obtained. Some of the mesenteric glands were enlarged and the finger brushed over small nodules that were taken to be tuberculous studdings of the peritonæum. A permanent drainage-tube, which proved to be a failure, afterward was inserted. The patient gained for a few weeks, but fell away again and died, greatly emaciated, four months from the time of operation. A post-mortem specimen of the pelvic mass, sent to Dr. H. M. Biggs at the Carnegie Laboratory, was discovered by him to be a piece of typical papillo-fibromatous cyst.

The case of fibroma which involved the falciform ligament of the liver (Case 45) presented all the clinical features of a case of distension of the gall-bladder with gall-stones before the tumor was removed, and the most distressing attacks of biliary colic had been caused by the pressure upon the common bile-duct.

In the operation for removal of the uterus (No. 54) it occurred to me that a suprapubic incision in connection with the vaginal incisions would allow of more rapid and easy manipulation of the uterus and its appendages, and such proved to be the case. The entire operation ought to be done in an uncomplicated case in twenty-five minutes. Bränneke's uterus tractor is an invaluable instrument in this operation. In another and similar case I should close all wounds completely, instead of leaving the corners of the wound in the vagina open for drainage.

Case 56 was a typical one of cancer of the caput coli. It was a very easy matter to ligate and separate the attached omentum, and to insert the end of the ileum into the invaginated portion of the colon. Given a patient in fair physical condition with a comparatively small portion of intestine destroyed by cancer, and the operation is one of the most promising in our new abdominal work. The patient was very weak, and she died from shock about ten hours after the operation—an accident which would not have happened if resources for relieving the condition of shock had been at hand.

In the two perityphlitis cases (Nos. 57 and 58) the patients were suffering from symptoms of septicæmia at the time of operation. In the first the dullness in the right iliac fossa was not very marked, and the character of the pain and of the vital signs was depended upon for diagnosis. Laparotomy just above Poupart's ligament was made, and peritoneal adhesions were found to be quite firm between the loop of colon and of ileum and parietal peritonæum, which presented. Taking care not to separate adhesions more than necessary, the finger was pushed directly down to the region of the appendix vermiformis, and its withdrawal was followed by a little burst of fœtid, greenish pus and gas, with some fragments which looked like necrotic pieces of the appendix. The cavity was gently washed out with a saturated solution of boric acid, and a very large double drainage-tube was introduced. The patient was much relieved, and continued to improve for five days, when general septic peritonitis supervened suddenly, and the patient died twenty-four hours later. In the second case the dullness in the iliac fossa was very decided, and characteristic symptoms of septicæmia had persisted, according to the history given by the family physician, for a week. The disease had been in progress for two weeks. A long incision, parallel with Poupart's ligament and just above it, evacuated at least two quarts of fœtid pus, containing several round, bean-like masses of fæcal matter and a necrotic piece of appendix. The peritonæum was not opened. The wound was left open, a large glass drainage-tube inserted, and the cavity washed out daily with antiseptic solutions. Nature made no attempt at repair of the wound, and, symptoms of septicæmia persisting, the patient died exhausted three weeks from the date of the operation.

In almost all of the laparotomies no antiseptics were used within the peritoneal cavity, as the peritonæum, on account of its free lymphatic circulation, disposes of microbes so readily that antiseptic solutions are unnecessary, if not injurious, there. Simple hot water was used for cleaning the peritoneal cavity when necessary, or for the purpose of avoiding shock. Although the peritonæum does not need to be handled antiseptically, it is undoubtedly obligatory upon modern surgeons to approach and to withdraw from that membrane under an ambush of the strictest antiseptic methods. Drainage was employed only in Cases No. 42, 46, 53, and 57. The peritoneal margins were always sutured first with Kocher's catgut, the muscular and fibrous tissues were then united with chromic catgut, and the skin and fatty tissues with a third series of Kocher's or chromic catgut. There is good reason to believe that hernia will not appear at the site of operation in any of these cases.

In the laparotomies in male patients the abdomen was tightly bandaged, as the abdominal respiratory movements in the male introduce an element of danger from which female patients are free.

After a laparotomy had been performed morphine was given a few hours later to quiet restlessness, but was not continued on the second day, and the bowels of all the patients were kept freely opened with hydragogue cathartics, with the help of glycerin enemata when necessary.

Two cases sent for operation were not operated upon, and proved to be more interesting than any of the others for that very reason. Both patients were young women with excessively tender ovaries, and who suffered from ovarian neuralgia, hysteria, headaches, and other neurotic symptoms. My attention having been attracted to the publications of Dr. George T. Stevens on the subject of reflex neuroses from eye strain, the patients were sent to oculists who were familiar with that author's ideas. Both of the patients were found to be suffering from eye strain, and proper treatment of the eyes quickly stopped the hysteria, headaches, and ovarian demonstrations in the worst case, and modified the symptoms decidedly in the other.

In one of the laparotomy cases (No. 48) the patient had been menstruating for several hours before the operation was performed. The Graafian-vesicle sac contained a large, soft blood-clot. Menstruation continued, in a normal way, for five days after the operation.

In an external urethrotomy case (No. 82) the patient's bladder filled with blood-clots after the operation, and these were successfully dissolved out with a pepsin injection by the patient's physicians, Dr. Deane and Dr. Zabriskie, of Greenfield, Mass.

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# SOME TENOTOMIES FOR THE CORRECTION OF HETEROPHORIA,

*WITH RESULTS.*

By DAVID WEBSTER, M. D.

(*Continued from page 12.*)

### HEADACHES, ASTHENOPIA, ETC.

Case XI.—Nellie C., aged twenty, came to me at the Manhattan Eye and Ear Hospital on February 17, 1888.

For several years she had suffered from severe headaches, which occurred almost every other day. The pain was principally across the forehead, and very seldom extended to the back of her head. The headaches last two or three hours and are usually brought on by reading, but sometimes occur without any exciting cause. She has a great deal of facial neuralgia also. Within the past seven months she becomes sleepy after using her eyes in reading or sewing any length of time. She is very often taken with fainting spells, fainting away and becoming quite unconscious. Eight days ago she had two or three such fainting spells. The first fainting spell was about four years ago, when she was attacked with it while grinding coffee. She has usually had these spells not more than once or twice a month. She was ill during the whole of last summer. She was cashier in a store at the time and got very weak.

R. V. = $\frac{20}{30}$; $\frac{20}{20}$ with + $\frac{1}{72}$. L. V. = $\frac{20}{30}$; Em.

Hyperphoria R. 3°, esophoria 2°, abduction 3°, adduction 16°, sursumduction R. 4°, L. 5°.

*February 25th.*—Divided the right superior rectus, leaving the hyperphoria exactly corrected. The patient fainted twice during the operation.

*26th.*—She had some headache after reading this morning.

*27th.*—Orthophoria, abduction 6°, adduction 16°, sursumduction R. 3°, L. 3°.

*March 2d.*—Orthophoria.

*September 14.*—The patient states that she has had no headaches or fainting spells since the operation, a period of nearly a year.

R. V. = $\frac{20}{30}$ —; $\frac{20}{20}$ with + $\frac{1}{60}$ cyl. ax. 90°. L. V. = $\frac{20}{20}$; Hm. $\frac{1}{60}$.

Orthophoria, abduction 5°, adduction 16°, sursumduction R. 3°, L. 3°.

Case XII.—Rev. F. D. G., aged thirty, missionary to China, was referred to me by Dr. E. C. Seguin, with the following letter, dated December 27, 1887: "Rev. Mr. G. has congestive symptoms about the head and a degree of nervous prostration, now relieved. Since eight years he has noticed occipital pain and distress on the prolonged use of his eyes, symptoms suggestive to me of muscular insufficiency in accommodation. He has good vision, and to me his eyes are about emmetropic."

Upon testing Mr. G. I found: R. V. = $\frac{20}{15}$; E. L. V. = $\frac{20}{15}$; Hm. 0·25 D. Hyperphoria L. 1°, esophoria 1°, exophoria in acc. 4°, abduction 4°, adduction 14°, sursumduction R. 3°, L. 2°.

*December 28th.*—Under homatropine, R. V. = $\frac{20}{15}$ with + 0·50 D. L. V. = $\frac{20}{15}$ with + 1 D. Hyperphoria L. $\frac{3}{4}$°, abduction 7°.

Ophthalmoscopic examination shows physiological excavation of both discs and pulsation of the retinal veins in both eyes. There was no lesion of either eye except a small white spot just above the right macula.

*30th.*—Hyperphoria L. 1°. *Tenotomy of the left superior rectus*, slightly overcorrecting the hyperphoria.

*January 3, 1888.*—Abduction 7°.

*6th.*—Esophoria 2°, hyperphoria L. $\frac{1}{2}$°, abduction 5°, adduction 18°, sursumduction R. 4°, L. 3°. He was instructed to exercise his interni daily with prisms.

*9th.*—Abduction 1°, adduction 50°, esophoria 6°, in acc. 6°.

*13th.*—Abduction 5°, esophoria 2° to 5°.

*20th.*—Abduction 7°, hyperphoria L. 1°. Ordered glasses, R. + 0·25 D., L. + 0·25 D., prism 1°, base down, to wear all the time.

*27th.*—Abduction 6°, hyperphoria L. 1°. He said he had experienced relief from the use of the glasses, although reading with them for three hours brought on occipital headache, and after continuing the use of them four hours longer the headache was as bad as ever. *Tenotomy of the right inferior rectus*, leaving a slight overcorrection.

*February 10th.*—He reported that his headache had been better and that he read six or seven hours the day before without headache. The tests show orthophoria. Ordered glasses + 0·25 D., both eyes, without any prism.

*March 15th.*—The patient says his head symptoms have almost disappeared. For a month or more the eyes have been "sore to the touch," and more or less red, especially on rising in the morning. The redness disappears after a while. He has had these inflammatory symptoms since wearing the glasses. He was now advised to stop wearing the glasses, and the camphor and borax wash was prescribed for him. Examination showed orthophoria.

*June 15th.*—I met the patient outside my office, and he informed me that he had had no special trouble with his head, although he had been hard at work for some months, and that he anticipated a speedy return to his missionary duties.

*October 2d.*—Orthophoria, exophoria in accommodation 6°, abduction 5°, adduction 30°, sursumduction R. 2°, L. 2°. Mr. G. was unavoidably detained in this country. He considers himself greatly benefited by the tenotomies, and is doing full work with his + 0·25 D.

Case XIII.—Miss Carrie M., aged twenty-seven, teacher, American, was referred to me by Dr. J. B. Harrison on March 31, 1888. She complained of frontal headache, and that her "eyes get very tired after reading, and that she requires a very strong light."

R. V. = $\frac{20}{15}$; Em.; L. V. = $\frac{20}{30}$; improved by + 0·50 D. cyl. axis 90°. Hyperphoria R. 1°, exophoria in accommodation 4°, sursumduction R. 3°, L. 2°, abduction 10°, adduction 13°.

Ophthalmoscopic examination shows old corneal opacities of left eye. Ordered for right eye a plane glass, and for left eye a prism 1° base up. Ordered, also, an eye-wash for a slight conjunctivitis.

On May 14th, following, Dr. Harrison wrote: "Miss M. is about the same. She has used the glasses constantly, has faithfully applied the eye-wash, and favored her eyes all a schoolteacher could. She complains still of constant discomfort and imperfect vision."

*July 20th.*—R. V. = $\frac{20}{15}$; Em. L. V. = $\frac{30}{30}$; made $\frac{20}{20}$ — with + 0·50 D. cyl. axis 90°. Hyperphoria R. ½°, exophoria 3°, in accommodation 4°, sursumduction R. 2½°, L. 2°, abduction 10°, adduction 15°.

*21st.*—Under atropine, R. V. = $\frac{20}{15}$; E. L. V. = $\frac{20}{40}$; $\frac{20}{30}$ with + 0·50 D. cyl. axis 90°. Hyperphoria 0°, exophoria 2°, sursumduction R. 3°, L. 2°, abduction 9°, adduction 19°.

*31st.*—Exophoria ¾°, in accommodation 5°. Ordered for right eye plane glass and for left eye + 0·50 D. cyl. axis 90°.

*August 20th.*—Patient says she has had a great deal of pain for the last ten days. It seems to be right across the balls of both eyes. She also has a very annoying *burning* sensation in the eyes, which is worse when she is out in the open air.

Hyperphoria R. ½°, exophoria 3°, sursumduction R. 3°, L. 2°, abduction 10°, adduction 15°.

*Tenotomy of right superior rectus*, very slightly overcorrecting the hyperphoria and leaving exophoria 1°.

*21st.*—No hyperphoria, exophoria 1°.

*23d.*—No hyperphoria, exophoria 1° to 2°. Patient has had no pain since the operation.

*30th.*—The patient says she has a peculiar feeling in her eyes. She tried to sew, and that feeling came over them and she had to stop. No hyperphoria, exophoria 1°, abduction 10°.

*September 13th.*—Eyes have the same peculiar feeling, though not so often. No hyperphoria, exophoria 2°, in accommodation 6°, abduction 12°, adduction 15°, sursumduction R. 2°, L. 3°.

*Tenotomy of left externus*, leaving esophoria 1°, and abduction 6°.

*14th.*—Orthophoria. Eyes feel very comfortable. To go on with her teaching.

*October 2d.*—No hyperphoria, exophoria ½°, abduction 10°. The patient volunteers the statement that for several years she has been subject to attacks of nausea and vomiting. These attacks have been worse in the last two years. She has had only one attack since the tenotomy, and that immediately after.

Case XIV.—Miss Sadie B., aged twenty-seven, came to my clinic at the Manhattan Eye and Ear Hospital on April 11, 1887, with granular lids and pannus of three years' standing. R. V. = $\frac{20}{200}$; Hm. $\frac{1}{36}$. L. V. = $\frac{20}{40}$ with + $\frac{1}{40}$ c. axis 90°.

*January 23, 1888.*—The trachoma and pannus have been cured for some time, but with resulting corneal opacities. For more than a year she has had almost constant pain through her temples and in the back of her eyes. Her eyes feel as if they were "rolling about," even when closed. R. V. = $\frac{18}{200}$; no improvement with glasses. L. V. = $\frac{20}{40}$; no improvement with glasses. Hyperphoria L. 2°.

*25th.*—Hyperphoria L. 2°. *Tenotomy of left superior rectus*, making an accurate correction of the hyperphoria.

*26th.*—The hyperphoria remains corrected.

*27th.*—Hyperphoria L. 1°. The patient states that she has had less headache since the operation, and that the rolling sensation has disappeared.

*February 3d.*—Hyperphoria L. 1°. The headaches are better.

*13th.*—Hyperphoria L. 1°. The eyes still roll some, but within the last week there is less pain back of them.

*29th.*—Hyperphoria L. 1°. The patient says the pain in the left eye is less, but as bad as ever in the right.

*March 9th.*—Hyperphoria L. 2°, exophoria, 3°. Her eyes have felt very well up to to-day, when both "have hurt her a great deal."

*20th.*—Hyperphoria L. 3°. *Tenotomy of right inferior rectus*, correcting the hyperphoria.

*May 25th.*—Orthophoria; considerable conjunctivitis. There has been no sensation of rolling since the last operation, but the eyes feel sore and ache and tire easily.

Case XV.—Josephine C., aged twenty-three, came to my clinic at the Manhattan Eye and Ear Hospital complaining of having been disturbed for the last two years by "wavy lines, up and down," which appeared at a distance of three or four feet out, on either side of the head.

*September 9, 1887.*—R. V. = $\frac{20}{70}$; $\frac{20}{50}$ with + $\frac{1}{14}$. L. V. = $\frac{20}{20}$; Hm. $\frac{1}{18}$. Exophoria 5°, in accommodation 9°, abduction 2°, adduction 6°, sursumduction R. 16°.

*September 12th.*—Hyperphoria R. 12°, exophoria in accommodation 9°.

*November 2d.*—*Tenotomy of right superior rectus.* After the tenotomy there remained hyperphoria R. 3°, exophoria 3°, in accommodation 3°, sursumduction R. 9°, abduction 8°, adduction 7°.

*7th.*—Hyperphoria R. 3°, esophoria 2°.

*9th.*—Hyperphoria R. 5°, esophoria 10°, abduction 10°, adduction 30°, sursumduction R. 5°, L. 6°.

Case XVI.—Mrs. Dr. E. C. H., aged twenty-one, consulted me about her glasses on December 30, 1880. Her myopia came on at the age of eight or ten. She complained that her eyes bothered her when doing fancy worsted work and when reading at night, and she thought she was becoming more nearsighted. She had been subject to sick-headaches and had a peculiar sensitiveness along the dorsal spine. V. = $\frac{20}{200}$ with her glasses, — $\frac{1}{13}$. Ophthalmoscopic examination showed a high degree of compound myopic astigmatism. Homatropine was dropped into both, when we found:

R. V. = $\frac{6}{200}$; $\frac{20}{50}$ with — $\frac{1}{12}$ s. — $\frac{1}{12}$ c. ax. 45°.
L. V. = $\frac{8}{200}$; $\frac{20}{50}$ with — $\frac{1}{11}$ s. — $\frac{1}{16}$ c. ax. 160°.

*January 7, 1881.*—Ordered:
R. — $\frac{1}{11}$ s. — $\frac{1}{16}$ c. ax. 60°.
L. — $\frac{1}{11}$ s. — $\frac{1}{15}$ c. ax. 160°.

*July 21, 1884.*—R. V. = $\frac{20}{40}$ with — $\frac{1}{10}$ s. — $\frac{1}{15}$ c. ax. 50°.
L. V. = $\frac{20}{40}$ with — $\frac{1}{12}$ s. — $\frac{1}{15}$ c. ax. 150°.

The above glasses were ordered for all the time.

*January 7, 1888.*—The patient, having broken her glasses, came to see if any change should be made in them before ordering another pair. She incidentally spoke of her severe and frequent headaches, and I proposed to test the muscular condition of her eyes, which had heretofore been overlooked. I found hyperphoria R. 2°, abduction 9°, no esophoria or exophoria.

*9th.*—Hyperphoria R. 3°, exophoria 1°, in acc. 14°, abduction 10°, adduction 33°, sursumduction R. 5°, L. 3°.

R. V. = $\frac{20}{70}$ + with $-\frac{1}{10}$ s. $-\frac{1}{15}$ c. ax. 50°.

L. V. = $\frac{20}{50}$ + with $-\frac{1}{12}$ s. $-\frac{1}{24}$ c. ax. 150°.

This patient saw in consultation Dr. W. Oliver Moore, Dr. J. S. Norton, and Dr. George T. Stevens, all of whom found from 6° to 8° of hyperphoria of right eye, and all of whom advised its correction by tenotomy. Dr. Moore found that the red glass over one eye brought out vertical diplopia.

*January 28th.—Tenotomy of right superior rectus*, Dr. Harwood and Dr. Gruening being present. Immediately before the operation the hyperphoria was 8°, immediately after it was less than $\frac{1}{2}$°. There was an unusual amount of bleeding under the conjunctiva.

The next day I visited this patient at her house and found her reading the newspapers.

*30th.*—She called at my office, was examined, and then went down town.

*31st.*—Hyperphoria R. 1°.

*February 9th.*—Hyperphoria R. 3°. She had a severe headache a week ago—the only one since the day after the operation

*June 2d.*—Hyperphoria R. 1°. The patient had a severe attack of *erythema nodosum* coming on soon after her last visit to my office and confining her to bed for several weeks. She has had only two headaches—one eight weeks ago and one yesterday.

*September 13th.*—Hyperphoria R. 3°. She has suffered a good deal with facial neuralgia through the summer. She had a headache caused by a long ride on the rail-cars.

*23d.—Tenotomy of left inferior rectus*, leaving a correction of the hyperphoria. The bleeding was excessive, as before.

*24th.*—Confined to her bed with a severe cold and bronchitis.

*25th.*—Is better, though still confined to her room.

*26th.*—Hyperphoria R. $\frac{1}{2}$°.

*October 5th.*—Hyperphoria R. 2°; has had no headache or neuralgia since the attack she was suffering from at the time of the last operation.

Case XVII.—Dr. W. S. K., aged thirty-two, consulted Dr. C. R. Agnew on April 25, 1877. He stated that he had no trouble with his eyes until September, 1876, when neuralgic pains about the root of his nose set in while reading. Then there was a feeling of severe tension over his brow while reading. He used belladonna ointment over his brows until his accommodation grew weak and he had to give up reading altogether. He then became excessively nervous all over. He consulted Soelberg Wells, who dilated his pupils and found his fundus normal, but that he had Ht. $\frac{1}{30}$, each eye. He has worn + $\frac{1}{30}$ constantly since.

Dr. K. says his eyes first "broke down" while working all day with the ophthalmoscope and microscope, and then reading late at night. At Christmas he observed that he would become worse when the gas was lighted. He went to church on one occasion and the bright light caused great infra-orbital neuralgia and neuralgia of the third division of the fifth nerve. This has been confirmed a dozen times. Reading or walking in bright sunlight invariably brings on pain in the inferior maxillary region, the pain being more especially referred to the front teeth below. His teeth were never tender in mastication, and he has only one carious tooth, the first molar on the right side, and that is well filled. He is troubled with spasms about his internal canthi when he lies down. His digestion seems to be good. Never had venereal disease. His father was rheumatic, and perhaps gouty. He says he is as nervous as a hysterical woman. He jerks and starts when he goes off to sleep. He suffers from sciatica of the left hip, but attributes that to a fall from a horse when a boy.

V. = $\frac{20}{20}$ each with + $\frac{1}{24}$. No insufficiency.

Ophthalmoscopic examination gives him excruciating pain, lasting twenty-four hours or less.

The patient was referred to Dr. E. C. Seguin for an opinion. Dr. Seguin wrote:

"*April 25, 1877.*—Dr. K.'s case has seemed very interesting to me. I am disposed to look upon his hyperæsthesia (face and limbs) as due primarily to insufficient nutrition. He has worked hard and used a diet which I look upon as perfectly fitted to develop anæmia and neuralgia. I would suggest beefsteak and roast meats twice a day, ale or claret for dinner, and not much starchy food. Thompson's solution of phosphorus may also do good, and relief may be had by the positive pole of the galvanic battery. I don't find the usual symptoms of asthenopia."

*26th.*—Hm. $\frac{1}{24}$ each. Cooper and Wells and Purvis, of London, all examined his eyes under atropine and found that his Ht. was + $\frac{1}{24}$.

*April 19, 1887.*—The patient returns to me with a letter from Dr. A. W. Calhoun, of Atlanta. He stated that he got no relief from his glasses, and finally discarded them altogether. Since ten years ago he has suffered agony every hour that he has been awake, and he has been kept awake many nights with pain through the temples, through the root of the nose, and through the teeth and malar bones. The main pain is through the malar bones and nose. No pain in the top of the head or in the occipital region.

R. V. = $\frac{20}{20}$ —; $\frac{20}{20}$ with + $\frac{1}{40}$.

L. V. = $\frac{20}{20}$ —; $\frac{20}{20}$ with + $\frac{1}{48}$.

No hyperphoria, esophoria 2°, abduction 2°, adduction 12°.

*May 7th.*—Esophoria 4°, in acc. 0°, hyperphoria R. 1°, abduction 4°, adduction 13°, sursd. R. 0°, L. 0°.

The patient was now referred to a physician skilled in diseases of the nose, who found that he had a deviated septum, and operated upon it. He also operated upon his hypertrophied turbinated bone, but without much apparent benefit.

*12th.*—Tenotomy of right internus, leaving orthophoria, with abduction 8°, as found on testing half an hour after the operation.

*13th.*—Went to bed last night with a freedom from pain which he has not experienced for years. Esophoria 4°, abduction 8°.

*21st.*—Orthophoria, abduction 7°, adduction 19°. Much improved.

*April 2, 1888.*—The patient writes: "I have done a hard winter's work in the college and with my practice, and my eyes have held up very well."

Case XVIII.—J. P. S., aged twenty-five, came to the clinic at the Manhattan Eye and Ear Hospital in November, 1887, complaining of an almost constant pain in both eyes. He was a theological student, and the pain was much worse at night after studying all day. His eyes felt hot and inflamed, and the heat of the fire seemed to aggravate the condition. We found:

R. V. = $\frac{20}{20}$; $\frac{20}{10}$ with + $\frac{1}{60}$ c. axis 75°.

L. V. = $\frac{2}{20}$; $\frac{20}{10}$ with + $\frac{1}{60}$ c. axis 105°.

Abduction 6°, adduction 6°, sursd. R. 2°, L. 2°.

The above glasses were ordered for constant use.

*December 27th.*—The symptoms are only partially relieved by the glasses.

Under atropine:

R. V. = $\frac{20}{30}$; $\frac{20}{10}$ with + $\frac{1}{48}$ c. ax. 75°.

L. V. = $\frac{20}{30}$; $\frac{20}{10}$ with + $\frac{1}{48}$ c. ax. 105°.

Abduction 9°, adduction 8°.

Put on prism exercises daily of his interni.

*28th.*—Adduction 13°.

*29th.*—Adduction 14°.

*30th.*—Adduction 19°.

*31st.*—Adduction 23°.

*January 1, 1888.*—Adduction 28°.

*2d.*—Adduction 56°.

*4th.*—Adduction 90°.

*5th.*—Adduction 108°.

*6th.—Tenotomy of right internus*, leaving abduction 8°, with exophoria 2°.

*7th.*—Abduction 8°, esophoria 3°, adduction 58° prisms over one eye, 108° prisms over both.

*13th.*—Orthophoria, abduction 8°, adduction 120°.

The patient now uses his eyes in studying without pain, and expresses himself as satisfied with the result.

*March 1st.*—The patient says his asthenopic symptoms are now as bad as ever.

Orthophoria, abduction 7°.

Ordered the cylindrics which corrected his astigmatism under atropine for constant use.

*28th.*—He still has some pain in his eyes, though not so severe as formerly.

Case XIX.—B. M. G., aged twenty-two, consulted Dr. Agnew and myself, on October 27, 1887, on account of his eyes. He was a theological student, and had got so that he could not read "any length of time," with or without glasses, without bringing on headache and nausea. His glasses, which were ordered by Dr. Culver, of Albany, and were a good correction, were:

R. + 0·75 D. cyl. ax. 45°.

L. + 0·50 D. cyl. ax. 150°.

These glasses raised his vision from $\frac{20}{40}$ to $\frac{20}{20}$ with his right eye, and from $\frac{20}{30}$ to $\frac{20}{15}$ with his left eye.

Ophthalmoscopic examination showed physiological excavation and venous pulsation of both.

Hyperphoria R. 1°, esophoria 4°, abduction 4°, adduction 30°, sursd. R. 1°.

*October 28th.*—Under homatropine:

R. V. = $\frac{20}{50}$; $\frac{20}{15}$ with + 0·75 D. axis 45°.

L. V. = $\frac{20}{40}$; $\frac{20}{20}$ with + 0·50 D. axis 150°.

Abduction 3°, adduction 9°, esophoria 9°, with or without his glasses.

*31st.*—Dr. Agnew did a careful tenotomy of the right internus at the Manhattan Eye and Ear Hospital. Immediately before the operation he had esophoria 6°, abduction 5°, adduction 25°, hyperphoria R. 1°, sursd. R. 2°, L. 1°.

*November 3d.*—Esophoria 5°, hyperphoria R. 1°, abduction 6°, adduction 25°, sursd. R. 2°, L. 2°.

*9th.*—Esophoria 2°, abduction 5°, adduction 32°, sursd. R. 2°, L. 2°, hyperphoria 0°.

*January 18, 1888.*—Esophoria 2°, abduction 4°, adduction 43°. No hyperphoria.

*19th.*—No hyperphoria, esophoria 5°, abduction 5°.

*20th.*—Muscular conditions unchanged. The patient can now do near work for more than an hour without discomfort.

*March 13th.*—Mr. G. writes: "Before I went to the hospital I got so I was unable to read fifteen minutes without severe headache and a peculiar feeling that seemed to prevent my brain from operating. Sometimes this was accompanied by nausea, and I was under a constant nervousness that was very trying. For a time after the operation was performed the headaches continued. Then they gradually decreased until at the present time I am able to use my eyes for from two to three hours with very little unpleasantness. For the past three weeks I have been assisting in revival services, and have during that time done the study and work required to get up a sermon without once thinking of my eyes."

*May 29th.*—Esophoria 4° to 10°, abduction 5°, adduction 90°, hyperphoria 0°, sursd. R. 2°, L. 2°.

As there was some return of the asthenopic symptoms, I now *divided the left internus*, leaving abduction 8°, with esophoria 12°.

*30th.*—Esophoria 14°, abduction 5°.

*31st.*—Esophoria 4° to 9°, abduction 7°.

*August 24th.*—A letter from Mr. G. says: "My eyes are now in a condition of orthophoria. Of prisms, base out, I can overcome as much as ever; base in, I have gone as high as 10°, but that varies. I have more use of my eyes than just before the last operation. I can use them for a couple of hours a day for a week or more, and then they gradually run down, and I have to rest them again."

(*To be continued.*)

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## A REPORT OF A CASE OF SUPRA-ACROMIAL DISLOCATION OF THE CLAVICLE

### IN WHICH AN EXCEPTIONALLY GOOD RESULT WAS OBTAINED BY A SIMPLE METHOD OF TREATMENT.

By CHARLES A. POWERS, M. D.,
SURGEON TO OUT-PATIENTS, CHAMBERS STREET HOSPITAL.

Upward dislocation of the outer end of the collar-bone is of such frequent occurrence that no reference need be made to its causes or its evidences. Its treatment is, however, of exceptional interest. Complete retention of a proper position after thorough reduction is a matter of no little difficulty, and I think that surgeons agree that in very many cases a certain amount of deformity persists even though the functions are completely restored. In the male this loss of contour is of little moment, but to the young woman whose shoulders adorn society it is a matter of no inconsiderable importance.

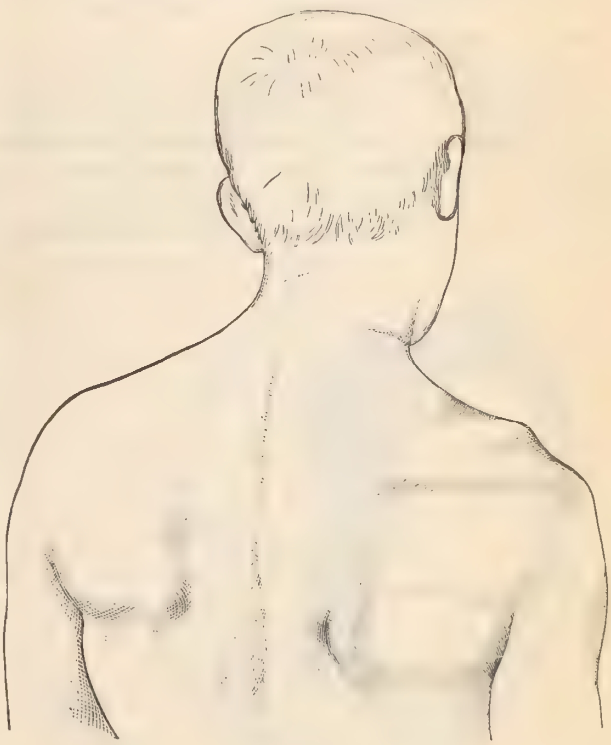

Fig. 1.

Reference to the cuts will show that the patient, whose history is briefly appended,* presented an unusually marked degree of deformity. His cure was no less exceptionally perfect.

T. F. K., an elevator boy, twenty-three years of age, on the afternoon of October 7, 1888, fell forcibly to the floor, striking heavily on the postero-external aspect of the right shoulder. Half an hour thereafter he sought treatment at the Chambers Street Hospital.

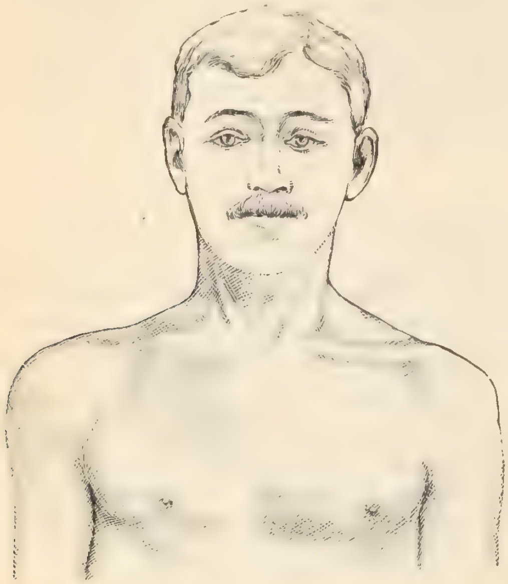

Fig. 2.

Examination revealed a complete supra-acromial dislocation of the right clavicle. The shoulder fell downward, slightly inward, and forward, and was the seat of almost complete disability. The outer end of the clavicle rode on the superior surface of the acromion, and its articular surface could plainly be felt. The long axis direction of the collar-bone differed but slightly from that exhibited by its fellow. The deformity is very well shown in Figs. 1 and 2.

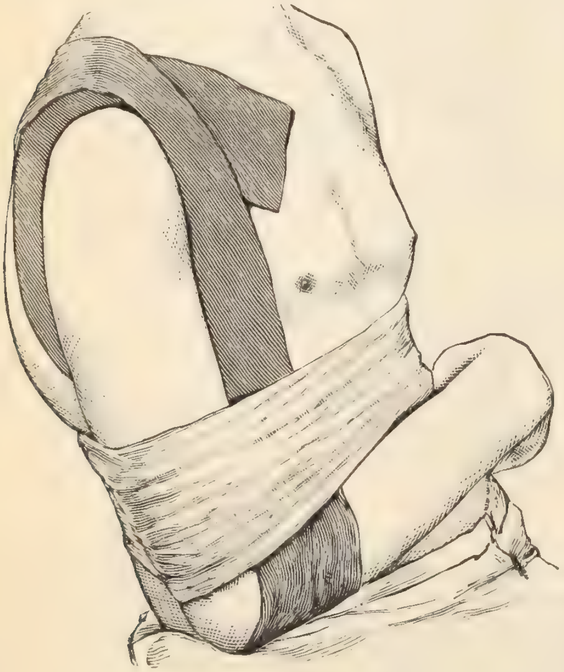

Fig. 3.

The upper third of the arm being firmly grasped, the humerus could be used as a lever with which to pry the shoulder up and out. The deformity being very thoroughly reduced, Dr. Harris, the house-surgeon, applied a plaster dressing as advised by Dr. L. A. Stimson.

A small, firm pad was placed over the outer end of the clavicle.

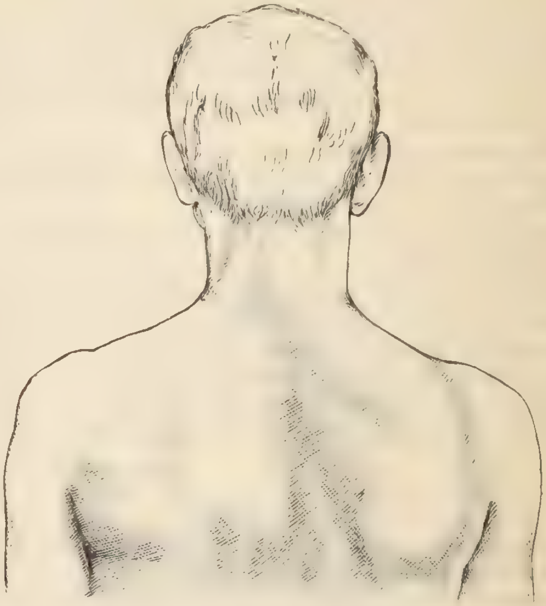

Fig. 4.

A strip of rubber plaster, three inches in width, was applied beneath the flexed elbow and carried up the back of the arm over the outer end of the clavicle to the front of the chest, up the front of the arm, and over the clavicle to the back of the chest. (A glance at Fig. 3 will show that the plaster, when firmly applied in the manner described, holds the shoulder up and the collar-bone down.) The elbow was adducted to the chest and a roller bandage carried about the body.

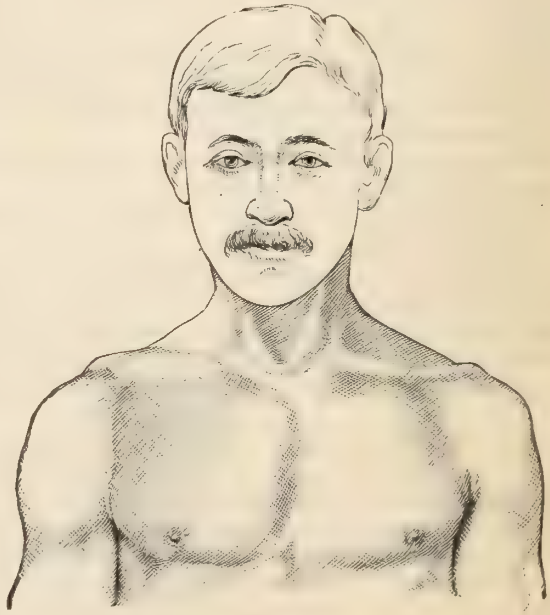

Fig. 5.

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* This patient was exhibited before the Surgical Section of the Academy of Medicine, November 12, 1888.

The dressing was left in place ten days, removed, the position of the parts noted as perfect, and the dressing reapplied and left on until the twenty-seventh day. That the contour of the parts was restored perfectly is shown in Figs. 4 and 5. Ten days after removal of the dressing the functions were in every way complete, and the only difference between the joint and its fellow was found to be a moderate degree of thickening on the affected side.

18 East Twenty-fourth Street.

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# ARE QUADRUPEDS SUBJECT TO THE HÆMORRHOIDAL DISEASE?

By WILLIAM BODENHAMER, A. M., M. D.

To those who are in the pursuit of knowledge, it is no less interesting and profitable to observe and to study the origin, primary cause, and development of diseases of animals than of those of man; and it is this very subject that is more especially at this time engaging the profound attention of able men, both in our own and in foreign countries. The writer should therefore not be required to make any apology for introducing the subject particularly comprised in the question, *Are quadrupeds liable to hæmorrhoids?* which some may consider of no practical value or importance whatever; but if such there are, they should know that some of the most eminent men of our profession have not considered the subject of this very question to be beneath their attention and observation. And, furthermore, this is pre-eminently an inquisitive age, and everything pertaining to the science of medicine is being investigated, from the most trivial to the most profound.

Whether quadrupeds are subject to hæmorrhoids is a question which can, in the opinion of the writer, be safely answered in the negative; so that it may truly be said of the animals which live in our midst that while they are subject like ourselves to many analogous diseases, yet there is one very troublesome, distressing, and painful affection universal among us from which they are exempt—namely, the *hæmorrhoidal disease.*

This question, however, is one which can only be decided by observation and by pathological anatomy; and as a preliminary to such an investigation it will be necessary to explain exactly what the hæmorrhoidal disease in man is, so as to be prepared to ascertain whether such a disease obtains in quadrupeds. This course is the more requisite inasmuch as there are a few diseases which have been discovered in quadrupeds which somewhat resemble hæmorrhoids, and which have been diagnosticated as such by some authors; such are the tumors of the anus and rectum and the hæmorrhages by the same medium which are not hæmorrhoidal; for it is well known that in the human subject such tumors and hæmorrhages occur and are well calculated to be confounded in either case with hæmorrhoids by superficial observers.

*Differential Diagnosis.*—Now, the hæmorrhoidal disease does not consist, as some authors maintain, of tumors alone, or of hæmorrhage alone; these are the mere accessories; but it consists in reality of an inflamed and relaxed condition of the hæmorrhoidal veins and capillaries of the inferior portion of the rectum from some exciting cause. This is the primary affection. This disease of the blood-vessels, then, may result in tumors, in hæmorrhage, or in both. Indeed, in the opinion of the writer, so far as the structure of the true hæmorrhoidal tumor is concerned, it is always the result of the morbid state of the blood-vessels, and is a regular organized growth caused by the extravasation of blood or serum or both into the cellular tissue, there assuming an organized form. Let it therefore be remembered as a fact that the cellular parenchyma is never absent in true hæmorrhoidal tumors, being essential to their very formation and development. Hæmorrhoidal tumors can easily be distinguished from all other tumors of the rectum and anus; so can the hæmorrhoidal flux be distinguished from all other hæmorrhages from the same organs.

*Tumors that are not Hæmorrhoidal.*—Next in frequency to the hæmorrhoidal tumors are the circum-anal growths denominated condylomata or polymorphic excrescences of the anus. These are not hæmorrhoidal tumors, although, singularly enough, many so call them. They, however, differ essentially and completely, both in their formation and in their structure, from hæmorrhoidal tumors. Condylomata originate in the cutis about the verge of the anus, and are alone the production of the cuticular covering of the part, without involving the cellular tissue beneath them. While the entero-external hæmorrhoidal tumor is seated in the cellular tissue beneath the skin which it involves, the condyloma is seated only in the skin itself or in the contiguous muco-cutaneous tissue. The condylomata of the anus are often caused by inflammation of the fine and delicate skin and muco-cutaneous tissue about the anal orifice; they are generally the result of friction, compression, contusion, or erosion arising from filth and acrid secretions.

The condylomata of the anus and their treatment are minutely described by Hippocrates ("Hæmorrhoïdibus liber") and by Celsus ("De medicinæ," lib. vi, cap. 18, et lib. vii, cap. 30). Both these illustrious ancients recognized the difference between the hæmorrhoidal tumor and the condyloma.

M. Lieutaud, speaking of tubercles or condylomata of the anus, was aware of the importance of the distinction between them and hæmorrhoidal tumors. He says: "Ces tubercules qu'on doit bien distinguer des hémorroïdes frétries occupent les bords de l'anus" ("Précis de la médecine pratique," tome iii, 12mo, Paris, 1776).

*Polypoid Tumors of the Rectum.*—Next come the polypoid tumors of the rectum, of which there are many varieties, and which in several respects resemble hæmorrhoidal tumors, and are frequently diagnosticated as such. In origin and structure, however, they differ entirely from hæmorrhoidal tumors. They originate in and are produced entirely by the mucous lining of the rectum, and they are composed of tissue resembling that of the mucous membrane from which they sprang. They are pedunculated, and when large they are generally solitary, but sometimes, when quite small, they are multiple, the mucous membrane being studded with them.

*Villous Tumor of the Rectum.*—The villous tumor of the rectum comes next in importance, and is considered a rare disease. This singular growth is liable to be confounded with the hæmorrhoidal tumor. It originates in the mucous membrane of the rectum, and is similar in character to the villous growths of the bladder, and of other mucous surfaces. It generally has a broad base, and sometimes a short, thick pedicle: has a soft and spongy feel, and is of a dark-red color; its growth is slow, and it often attains a large size. It is composed of numerous projecting papillæ or villi, the villous prolongations, which are long and fine, often exceeding several lines in length. In its minute structure it closely resembles the adenomatous or soft mucous polypoid of the rectum. Its principal peculiarity consists in its very remarkable disposition or tendency to bleeding, which takes place within the rectum, without the tumor being protruded, by a more or less constant internal dripping or *stillicidium*, and in this respect contrasts widely with the internal hæmorrhoidal tumor, which frequently never bleeds, even when protruded, and when it does bleed it is only when protruded.

*Hæmorrhage of the Rectum.*—Bleeding by the rectum sometimes proceeds from other sources besides hæmorrhoids; therefore hæmorrhage from this medium must not be taken alone as a positive evidence that it proceeds from the hæmorrhoidal vessels or from hæmorrhoidal tumors. The bleeding in hæmorrhoids is generally passive, scarcely ever active; the character of the blood is fluid, it is usually of a bright vermilion color, and it may be arterial, purely venous, or a mixture of both; it may be discharged at or immediately after a dejection, and may cover the fæces, but never mixes with them. The bleeding only occurs when the straining efforts are being made to evacuate the bowels, and may be effected by exhalation or exudation through the extremities of the morbid capillaries; or it may flow from one or more points, and be seen to spin out in a fine, continuous stream, as from ruptured vessels; or it may issue from the organized hæmorrhoidal tumors *per saltum*, or in jets—whereas bleeding from the intestines or viscera beyond the rectum is manifested by the blood being dark, coagulated, and mixed with the fæces. When the bleeding is the result of dysentery, the blood is generally mixed with more or less mucus, and attended with pain and tenesmus in evacuating it.

The writer has in the foregoing given an abstract of the hæmorrhoidal disease, and has clearly pointed out those tumors of the rectum and anus, and those hæmorrhages from the same, that simulate hæmorrhoids, but which are not. He will now show that some medical authors and veterinary surgeons declare that animals are subject to and have hæmorrhoids, notably that most noble, assiduous, and intelligent of all animals, the horse; but they do not adduce any positive evidence of the existence of hæmorrhoids in the horse, or in any other animal. It is true, as they assert, that they have occasionally seen tubercles or tumors at the verge of the anus of the horse which they call hæmorrhoids, and that they have also seen in other animals tumors of the rectum and hæmorrhages from the same; but, they have not demonstrated, by dissection or otherwise, that such tubercles or tumors were hæmorrhoidal, or that such bleeding proceeded from hæmorrhoids; but seem to know but little of the origin and structure of the tumors, or the character of such hæmorrhages, which they call hæmorrhoidal. It is evident that these authors have not derived their opinions of these tubercles or morbid growths from dissection, but from other sources merely. But no theory, no authority, can be accepted upon this subject unless derived from and founded upon pathological anatomy. The *onus probandi* will therefore devolve upon those who assert that quadrupeds have hæmorrhoids.

Mr. Hill, a distinguished veterinary surgeon of London, says that bovine animals, including both sexes, have hæmorrhoids, either in the form of rectal tumors or rectal hæmorrhage; but he does not give the anatomical character of the tumors or the kind of hæmorrhage; indeed, he gives no description whatever of either one or the other. The tumors may have been rectal polypi and the hæmorrhage dysenteric. He is entirely too indefinite ("The Principles and Practice of Bovine Medicine and Surgery," p. 116, imp. 8vo, London, 1882).

Mr. Armentage, a London veterinary surgeon, says that animals have hæmorrhoids, but he does not verify his declaration by any reasonable evidence; indeed, he says but little upon the subject ("Every Man his own Cattle-doctor," p. 293, 8vo, London, 1882).

Mr. Gamgee also says that animals have hæmorrhoids, but he does not demonstrate it ("Our Domestic Animals in Health and Disease," vol. i, p. 303, 8vo, Edinburgh and London, 1875).

In 1848, at Louisville, Ky., the writer's attention was first called to the subject of hæmorrhoids in quadrupeds by his friend, the late Dr. Nathaniel Field, of Jeffersonville, Indiana, who presented him with several tumors which had been brought to him for examination by a butcher whom he knew, who said he had removed them, with their connection, from the rectum of an ox he had killed, remarking that he thought they were piles, and that all others who had seen them were of the same opinion. The tumors were pyriform in shape and of the size of large almonds, of a purplish color, smooth exterior, and soft feel. They were carefully examined anatomically by the naked eye and by the microscope, and proved to be polypoid tumors of the adenomatous or soft mucous variety. Subsequent to this the writer for several years occasionally observed in the horse the same circum-anal growths, tubercles, elevations, or prolongations of the skin, as described by some veterinary surgeons, but he was always of the opinion that they were polymorphic excrescences of the anus, the same as in the human subject. This fact he was on one occasion able and fortunate enough to verify by carefully examining, by dissection, three such preternatural growths taken from the dead body of a horse. They had been noticed for years previous to the death of the animal, and always declared to be hæmorrhoids. The tumors were located at the verge of the anal orifice, of different forms, of the size of pullet's eggs, of a pale-red color, and a hard and firm feel. They consisted of a highly condensed, thickened, and hypertrophied condition of the common integument of the part, and proved to be condylomata and not hæmorrhoidal tumors.

The learned veterinary surgeon, Professor Gohier, of Lyons, France, considers that some animals are sometimes affected with hæmorrhoids, as he has occasionally seen what seemed to him to be hæmorrhoids in the horse. He says: "It is a tumefaction, of a pale-rose color, which immediately appears at the internal face of the rectum, and which projects more or less outside of the anus. This swelling, which has quite a resemblance to polypoid tumors, is often divided into small portions of the size of small hen's eggs. It appears to consist of a lymphatic substance, interposed in considerable quantity between the mucous membrane and the epidermis at the end of the rectum. This disease does not appear to have yet been described. May not these tumors be hæmorrhoidal mariscas?" ("Mémoires et observations sur la chirurgie et la médecine vétérinaires," tome i, p. 326, Paris, 1813). The tumors described by Professor Gohier were evidently either condylomatous or polypoid, and not, according to his own description, hæmorrhoidal.

Professor Gohier, when speaking in relation to hæmorrhoids in dogs, says: "In more than four thousand dogs, which I have already had occasion to treat, I have not seen a single one affected with hæmorrhoids. The blood which it is not rare to see these animals pass, either alone or with the excrements, is the effect of a dysentery or an inflammation of the intestines, and especially of the rectum, diseases which are frequently fatal" (*op. cit.*).

Professor Chaussier says: "We believe we have once or twice noticed hæmorrhoidal tumors in the anus of the horse" ("Dissertation sur les hémorroïdes," par J. B. Lavedan, 8vo, Paris, 1814).

M. de Montègre at one time thought that he had noticed hæmorrhoids in the horse, but subsequent observations convinced him that he had been mistaken (*op. cit.*, p. 352).

*Ætiology.*—The question will now be considered why man is subject to hæmorrhoids and why quadrupeds are not. The only reason or cause some authors give why man is subject to hæmorrhoids is the upright position of his body; and the only reason or cause they assign why quadrupeds are not subject to them is the prone position of their bodies. But may not this cause, in either case, be too mechanical, as it were, to be strictly correct?—may it not tend too much to limit the vast resources of nature within the bounds of our own deficient comprehensions?—for it is a well-known fact that there are other causes why man is subject to hæmorrhoids besides the erect posture of his body; so there are doubtless other causes why quadrupeds are not subject to them besides the horizontal position of their trunks. The peculiar manner of their life, which differs so essentially from ours, is, without doubt, the main if not the only additional cause why they are exempt from this disease.

Now, the chief predisposing cause of hæmorrhoids in the human subject, according to some authorities, is an anatomical one; and, in order to fully estimate the importance of the subject, this cause must be explained anatomically, which is the more necessary inasmuch as just the reverse of it obtains in quadrupeds; and in this explanation regarding the large vascular supply to the rectum, it will be perceived that hydraulics plays the most important part.

Anatomists know that in the inferior portion of the rectum in the human subject a large number of hæmorrhoidal veins exist; these veins are comparatively of large size; they occupy a peculiar depending position; and they receive but little support from the loose cellular tissue which surrounds them. Together with the foregoing facts we must consider the entire absence of valves in the depending plexus of the vena portæ. These several conditions of the veins of this part consequently tend to a retarded or sluggish circulation, the blood being more or less detained in them and favoring stasis. Whenever the body is erect, the blood therefore accumulates in these veins, so that under the most favorable circumstances they are subjected to more strain and pressure than any others of the body, and, in consequence of the want of valves in the portal system, the whole weight of the column of blood in them reaches from the liver or the heart without any interruption downward. These several circumstances act no inconsiderable part in the pathogeny of hæmorrhoids. They necessarily give rise either to hæmorrhage, vascular turgescence, hyperæmia, congestion, or hæmorrhoidal tumors. Indeed, any mechanism whatever which opposes the free circulation of the blood in that hybrid blood-vessel of the liver, the *vena portæ*, may prove a predisposing or an efficient cause of the hæmorrhoidal disease. According to authority, therefore, the depending situation of the veins of the portal system must always be a predisposing cause of hæmorrhoids in man so long as he maintains the erect posture. The absence of this cause in quadrupeds because of the horizontal position of their bodies is not, in the opinion of the writer, sufficient alone to prove that they are on this account entirely exempt from hæmorrhoids, as some authors maintain; but this cause may be a real one, so far as it goes, and have some bearing on the fact that animals are not subject to hæmorrhoids.

The writer will now give the views of the illustrious Boerhaave, who was of opinion that it was entirely owing to the prone position of the bodies of quadrupeds that they were exempt from hæmorrhoids; that this position of their trunk does not allow of the afflux of the blood into the veins of the rectum, as occurs in man, whose body is almost always erect ("Prelectiones academicæ in proprias institutiones rei." Edidit et notis addidit a Albertus Haller. Sec. 112 et sec. 774, 8vo. Gœttingæ, 1739).

The celebrated Morgagni confirms the opinion of Boerhaave with regard to the cause why animals are not subject to hæmorrhoids. He reasons that, in consequence of the great length of the superior hæmorrhoidal vein, it is much more difficult for the blood to be carried upward in this than in the other veins of the vena portarum, especially as the upright posture of the human body requires it, which, without doubt, he says, is one of the reasons why animals are not subject to hæmorrhoids ("De sedibus et causis morborum, per anatomen indagatis," lib. iii, epist. xxxii, art. 10, folio. Venetiis, 1761).

M. de Montègre, who has written an able article on this subject under the head "Hémorrhoïdes animaux" ("Hæmorrhoides bestiarum"), when speaking of the upright posture of man and the depending position of the hæmorrhoidal veins, says: "There is no doubt that the dependent situation of the parts favors the collection of the blood. One may convince one's self of this by trying alternately, allowing the hands to hang down or elevating them above the head; in the former case the veins of the arms will be seen swollen and very salient, while in the other they become empty and disappear very rapidly. There is no one who does not know that the horizontal position very much diminishes the tension and the pain of an engorged member; and what physician can be ignorant of the relief which this position of the body affords in hæmorrhoidal fluxions?" ("Des hémorrhoïdes ou traité analytique de toutes les affections hémorrhoïdales," p. 351, 8vo, Paris, 1830).

Animals, says the distinguished M. Récamier, are neither subject to hæmorrhoids nor to the other kinds of hæmorrhages which attack man, notably epistaxis, the source of which is in a much more dependent part in them than in him ("Essai sur les hémorrhoïdes," 8vo, Paris, 1800).

M. de Montègre, in reply, says: "Another cause must therefore be assigned for this difference, the more so because, if the animals which we can observe are in fact less subject than ourselves to hæmorrhages, they do not fail, however, to be affected by them, especially those that happen in the sheep, called *le coup de sang, le sang de rate, le pissement de sang,* etc." (*op. cit.*, p. 351).

Professor Van Buren says: "I do not remember ever having seen an Indian with 'piles,' although in early life I saw something of their ailments; and there is no analogous disease in quadrupeds where the trunk of the body is prone and not upright in position. In view of this 'predisposing cause,' therefore, the disease would seem to be an appanage of civilized humanity" ("Lectures upon Diseases of the Rectum," p. 12, 8vo, New York, 1881).

The writer has often heard that the quadrumanous animals—the monkeys—have hæmorrhoids, but he never saw such a case and has seen nothing authentic on the subject. In examining the mortuary report, as published in the papers, of the late Mr. Crowley, the celebrated chimpanzee of the Central Park, no mention is made of his having suffered from hæmorrhoids, although he appears to have died of a complication of other diseases.

The distinguished anatomist, Douglas, when speaking of the different location of the internal sphincter ani in man and in the dog, says: "In the dog the circular fibers composing the internal sphincter ani do not embrace the extremity of the rectum so high up as in man, and the reason of it is plain, because the pressure and weight of the excrement is not so great on this part in the dog, the position of its body being prone, as it must be in man, whose posture is erect" ("Descriptio comparata musculorum corporis humani et quadrupedis," cap. xxiii, 8vo, Lugduno-Batavorum, 1738).

It will be observed that, according to Mr. Douglas, Nature, for the reasons given, made ample and equal provision for both man and dogs with regard to the different location in each of the internal sphincter of the anus.

The writer will now conclude by remarking that if it is true that the erect position of man is the only predisposing cause why he is subject to hæmorrhoids, and why quadrupeds in consequence of their prone position are not, it affords a strong argument in favor of the Darwinian theory that we were originally quadrupeds—that the position of our bodies was prone, not upright as now. In view of this predisposing cause, it would appear, then, that hæmorrhoids are alone the heritage of man in his present *exalted* posture.

27 East Forty-sixth Street, *November 3, 1888.*

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# BLACK TONGUE.

### By FREDERICK J. LEVISEUR, M. D.

In a recent interesting monograph,* Dr. F. Brosin, of Berlin, has given an exposition of the present state of our knowledge of a subject as yet but little understood—"black tongue."

Lingua nigra, nigrities linguæ, glossophytia, langue noire, nigritie de la langue, schwarze Zunge, schwarze Haarzunge, is a disease characterized by an enormous hypertrophy of the filiform papillæ and their epithelial cover, and a grayish-black or fully black discoloration on the upper surface of the tongue. It usually appears in patches, which look as if covered with black hair or wool, matted together, or as resembling closely a field of wheat thrown down by the wind. Being a purely local disease, without any gravity, it is only liable to cause a feeling of dryness in the mouth of the patient. When it covers the tongue to a large extent, as is sometimes the case, it is extremely annoying on account of the disagreeable-looking discoloration, which often proves refractory even to the most energetic treatment. The duration of the disease may be from ten days to twenty years, or it may come and go for a period of years. Black tongue is one of those rare diseases which are liable to puzzle the physician, who, unaware of its existence, will invariably be inclined to treat the disfiguring discoloration as a trifling matter easily to be got rid of. But he will be surprised to see the patient come back to him after a time with the same amount of "black tongue," but with decidedly less confidence in the ability of his medical adviser. I therefore think it is not only of theoretical but also of practical interest to call attention to this peculiar affection, which may often escape medical observation, and, in fact, is probably not so rare as the statistics seem to indicate. A case of "black tongue" which I have recently seen was in a patient of the New York Hospital, out-door department, to whose abnormal condition of tongue Dr. L. D. Bulkley kindly directed my attention.

A young man, about twenty-eight years of age, came to the skin department with florid symptoms of syphilis. Under adequate specific treatment the maculo-papular eruption which was present promptly disappeared, but numerous mucous patches began to develop on the lips and tongue. These latter proved very refractory to treatment. In spite of the most careful and skillful cauterizations with nitrate of silver and chromic acid and the repeated application of solutions of chlorate of potassium, sulphate of copper, and permanganate of potassium in varying strength, and though internal specific medication and hygienic measures were not neglected, the mucous patches were very slow to disappear, and new ones kept on showing themselves. The affection finally seemed to yield to treatment, there remaining only a diseased spot in the center of the organ of the size of a five-cent piece. When the patient returned a week later his tongue presented the appearance described above. A spot, looking as if covered with short, black hair or wool, was situated in the middle of the tongue, extending a little to the right, irregularly shaped, about an inch in length and three quarters of an inch in width, with its base toward the root of the tongue. Some of the black mass, which was removed with a pair of curved scissors, proved under the microscope to consist of enormously elongated filiform papillæ, covered with hypertrophied epithelial cells, loosely overhanging each other, not unlike an ear of corn the grains of which have been taken out. (See figure.) The unstained specimen had a diffuse sepia-brown color, the epithelia, however, having a darker hue than the underlying connective tissue.

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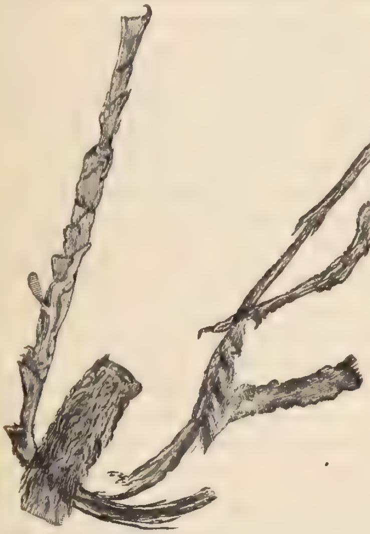
* Ergänzungsheft zu Dr. Unna's "Monatshefte für prakt. Dermatologie," 1888.



Elongated papillæ covered with hypertrophied epithelia, showing diffuse pigmentation. × 200.

I had no further opportunity of following up the case, but what I had seen of the clinical as well as microscopical aspect of the case was sufficient to convince me that this condition was "black tongue." There are about forty cases of this peculiar disease on record. They include both sexes and all ages, but show that "black tongue" principally affects those who are debilitated by age or disease. First described by the famous Rayer in 1835, then by Hyde Salter (London, 1849), Eulenburg (1853), St. Germain (1855), it has been made the subject of observation by Raynaud, Clarke (1873), Féréol (1875) and others, Lancereaux, Dessois in 1878, Rayer (1883), Sell (1885), Schech (1886), etc., and recently by Dr. Brosin as mentioned above. Dr. Solis-Cohen, of Philadelphia, is, so far as I know, the only American writer who has reported a case of "black tongue." In regard to the ætiology of the disease, it has been maintained, especially by French writers, that "black tongue" is caused by the vegetation of a peculiar fungus. Dessois described spores (sporules) of about 0·005 millimetre diameter, surrounding the elongated papillæ principally on their bases. Inoculations of the micro-organisms on the author's tongue, and another on the arm of a patient, had a negative result. Only very large accumulations of these spores exhibited a sepia-brown color. Dr. Brosin, who, like others, found the same micro-organisms, has proved, by carefully cultivating and examining them, that they are a form of *Oidium albicans* poorly developed. The result of his researches is, furthermore, that neither the hypertrophy of the papillæ nor the black color is due to parasitic vegetations.

The black color is caused by the accumulation of pigment, the nature of which is not definitely known. It is (as it was in my case) diffusely distributed, not granular, and of a light-brown color—facts which indicate that it is of that kind of pigment which, not originating from the blood, chemically does not contain iron, but a considerable amount of sulphur. It is probably the same pigment which, as Dr. Unna has shown, produces the black color in comedones or in ichthyosis histrix seu nigricans. The analogy which the latter disease presents with "black tongue" is most strikingly apparent, hypertrophy of the papillæ and horny modification of the epithelial layer forming the main features of both pathological processes. It can not be denied that the drying or oxidizing influence of air, the chemical properties of certain food, and numerous drugs play an important part in bringing about the black color, which (it has to be borne in mind) is absolutely different from a superficial and accidental stain. That the agencies above mentioned are liable to have this peculiar effect only on those places where there is a pronounced degeneration of the papillæ and their epithelia seems to prove that the pathological condition is the *conditio sine qua non* of the black pigmentation. I will conclude these few remarks with the suggestion that there is no reason why the excessive growth of some fungus, traces of which may be found in every mouth, should not act very much in the same manner as chemical preparations, and consequently, in some instances, be an essential ætiological factor.

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# Correspondence.

## LETTER FROM VIENNA.

*Congenital Ptosis treated after the Method of Panas.—Prolapsus Recti cured after a New Method.—On Diabetes Mellitus as an Anomaly of Assimilation.—The Formation of Sugar in the Animal Organism and its Importance.—Kraske's Operation.—The late Professor v. Bamberger.*

Vienna, *December 13, 1888.*

At a recent meeting of the Imperial Royal Society of Physicians of Vienna, Professor Fuchs showed a case of congenital ptosis which he had treated with success after the method devised by Panas, of Paris. The ptosis in this case was not produced by a congenital paralysis, but was due to the absence or atrophy of the *levator palpebræ superioris.* The speaker maintained that the disease was hereditary, though not in the special case under consideration. He possessed notes of cases in which the disease was hereditary in several generations. A woman had normal eyes, but her sister suffered from ptosis. The former had a son and a daughter, both of whom suffered from ptosis. Her sister had three children, two of whom had normal eyes and a third was affected with ptosis. The third afterward had first a daughter affected with ptosis, then a son with normal eyes, finally a second son and a second daughter who were subjects of ptosis. The eldest daughter had a daughter with ptosis, a son with normal eyes, and a second daughter with ptosis. The heredity of this disease was thus to be observed through four generations. The result of operation in the case under consideration was one which Professor Fuchs had not hitherto observed. The former methods of operation consisted in shortening the upper eyelid by excision of a segment of the skin with consecutive excision of the *orbicularis palpebrarum* (v. Graefe). This procedure had no good results, as the eyelid became too short. In the case in question, Professor Fuchs had availed himself of Panas's method. A pedicle a centimetre broad was formed out of the skin of the upper eyelid; another segment of skin was formed by two sections parallel to the eyelashes, the lower one of which was made near the upper margin of the pedicle and the superior one above the arch of the eyelashes. This second segment of skin was undermined, and the first-mentioned pedicle was passed through the cutaneous bridge thus formed and attached to the upper margin of the eye. By this operation the eyelid was not only raised and the ptosis thus corrected, but the frontalis was also availed of for the execution of the movements of the eyelid. The operation of Panas had, moreover, the advantage of re-establishing the normal covering-fold of the eye. The operation in the case under consideration was performed six months ago, and, as the patient now saw perfectly well, the success obtained could be looked upon as permanent.

Dr. v. Hochenegg, Professor Albert's assistant, at the same meeting showed a patient, fifty-two years old, who, in 1886, had been successfully operated upon at Professor Billroth's clinic for carcinoma of the rectum, and dismissed cured a month afterward. Prolapsus of the rectum, however, was reproduced in a short time, and gradually increased to such a degree that reposition could be made by the attending physician only in the knee-elbow position. The patient was very much troubled by involuntary defecations and the copious discharge of pus. In order to remove these conditions, the speaker performed the following new operations: He made a section behind the orifice of the anus, enucleated the coccyx, resected the sacrum, and established an *anus præternaturalis sacralis*. The prolapsus itself was cut through and removed, the opening of the peritonæum was closed by sutures, and tampons of iodoform gauze were introduced into the anus. On the second day after the operation a serious accident occurred. The patient had, during micturition, pressed out a part of the convolutions of the small intestine, and thus presented the symptoms of severe incarceration. The prolapsed intestine was cleaned with a warm solution of salicylic acid, dusted with iodoform powder, and reposition was made in the knee-elbow position. The patient soon recovered and was dismissed as cured on the twenty-ninth day after operation.

At a recent meeting of the Vienna medicinisches Doctoren-Collegium, Professor Seegen read a paper on diabetes. According to the opinion of Claude Bernard, the sugar in the animal organism was formed by a ferment contained in the liver, which changed the glycogen of the liver into sugar. This opinion of Claude Bernard was opposed by several other investigators. Among them was Pavy, who stated that the formation of sugar was a post-mortem phenomenon, and that no sugar was ever formed *in vivo*. The experiments which Professor Seegen had carried out, together with Kratschina, of Vienna, showed that there was neither a ferment nor any acid present in the liver which would be able to transform glycogen into sugar. Professor Seegen, moreover, tried to find out whether the glycogen of the liver could be regarded as the material for the formation of sugar. With this object in view, he made the following experiments: He excised pieces of the livers of rabbits, cats, dogs, calves, and a fox at different intervals of time, and compared the quantity of the sugar contained in the liver of the living animals with that which had been found at a certain time after the excision. The results showed that the parts excised from the living liver invariably contained sugar, and the quantity of the sugar was found gradually to augment from the date of the excision. The quantity of the sugar detected in the liver ten minutes after the excision was $\frac{1}{10}$ of one per cent., but an hour later it was found to be $\frac{5}{10}$ of one per cent., and after seventy-eight hours the quantity amounted to 3 per cent.; the quantity of the glycogen, however, did not change. Thus the discovery of Claude Bernard that sugar was formed in the liver was confirmed, but the supposition that the sugar was formed from glycogen was refuted. The speaker, furthermore, examined the quantity of the sugar which was contained in the portal vein, and that contained in the hepatic veins, as this was the fundamental experiment of Claude Bernard. These experiments were performed on more than a hundred living dogs, and the result was that the quantity of sugar contained in the blood of the hepatic veins exceeded that of the portal vein by 50 per cent., and sometimes even by 100 per cent. and 200 per cent.

In order to appreciate the importance of the formation of sugar in the organism thoroughly, Professor Seegen tried to determine the quantity of sugar which was formed in twenty-four hours. Direct measurement showed that in a dog weighing forty kilogrammes, three hundred litres of blood circulated through the liver in twenty-four hours, and, as the blood of the hepatic veins contained at least $\frac{1}{10}$ of one per cent. of sugar, it thus became evident that three hundred grammes of sugar were formed in the liver and introduced into the circulatory system. As the quantity of the blood was in a direct proportion to the weight of the body, it was to be inferred that in the case of a man weighing eighty kilogrammes about six hundred grammes of sugar were conveyed to the circulatory system in the course of twenty-four hours. In regard to the question as to from what material sugar was formed, Professor Seegen stated that the results of his various experiments showed that the animal organism formed sugar out of fat and albuminates. There was no doubt about the fact that our mixed food formed sugar which underwent the same changes in the organism as coal in the machine—namely, it became oxygenated and thus produced warmth and work. The fact that the blood always contained a certain quantity of sugar (from 0·13 per cent. to 0·15 per cent.) was an evidence of the combustion of the sugar. The experiments of Professor Seegen also showed that the combustion not only took place in the blood itself, but that the oxygenation was without doubt present in all the tissues.

In the second part of his paper on diabetes mellitus as an abnormity of assimilation, Professor Seegen discussed the different forms of diabetes. He mentioned two forms—first, the mild form, which was to be observed only when amylaceous food had been taken, and, second, the severe form, which occurred under all conditions, even when no amylaceous food had been taken by the patient. The latter form was most frequently observed in youth, whereas the former was characteristic of old age. In regard to sex, the majority (about 70 per cent.) was represented by male patients. This disease was more frequently met with in Jews than in people of other nations. Among the eight hundred cases of diabetes which the speaker had observed, 25 per cent. were Jews. Pavy had made the same observation and was of the opinion that we had, in this respect, to do with a peculiarity of the race. Professor Seegen, however, differed on the ground that such an observation could not be made among the other nations of the Semitic race. He was rather inclined to believe that this fact was connected with the conditions of life and the whole history of the Jews; the disease was closely related to the nervous system, and it could fairly be imagined that the Jews' everlasting struggle for existence had predisposed them to diseases of the nervous system.

Respecting the duration of the disease, it could be stated that the severe form was of shorter duration than the mild one, and that at the utmost it lasted from four to five years. In exceptional cases diabetes had also an acute course, and disappeared in a few weeks. The mild form lasted, on an average, for thirteen years. The occurrence of diabetes in several families was a very important fact. In some of them diabetes and mental diseases alternated with each other. In 90 per cent. of the cases of diabetes the nervous system was not normal. With reference to the prognosis of diabetes it was of importance to know with what form of the affection we had to deal. For this purpose Professor Seegen advised physicians first to examine the urine and next to prescribe for the patient an absolute meat-diet for two days; the urine should then be examined again. If no sugar was found in the urine after these two days, the form of the diabetes was mild; when sugar was found to be present, though in small quantities, the form was severe. Sometimes it happened that but small quantities of sugar were detected in the urine, and that the diabetic symptoms were rather considerable; such cases were to be regarded as nervous diseases and not as simple diabetes.

In regard to the rarer symptoms there were to be mentioned: (1) pruritus vulvæ; (2) eye-diseases; (3) frequent abortion in the case of women; and (4) a peculiar appearance of the tongue.

As to the treatment of diabetes, Professor Seegen said that morphine had an influence only as long as it was taken; the alkaline mineral waters, such as Carlsbad, Vichy, etc., had no effect at all in the severe form; the effect of these waters in the mild form, however, was excellent and of great importance; the assimilation of the amylaceous food persisted also for a long time after the cure. Professor Seegen had not hitherto observed any case of absolute cure of diabetes—that is to say, so that the patient would have been able to eat with impunity as much of amylaceous food as in the healthy condition. With reference to the explanation of the appearances of diabetes Professor Seegen pointed out that, in relation to the two forms, two different processes had been considered. In the mild form the sugar only which had been introduced from without was secreted; in this case the liver had lost its capability of transforming the amylaceous food into sugar; the hepatic cells were affected. In the severe form not only the sugar which had been introduced from without was secreted, but also the sugar which was formed in the organism and which was otherwise conveyed to the blood. In such a case the transformation of the sugar was hindered, and not only a single organ was at fault in causing the disease, but all the cells of the body were affected. This theory was in conformity with all clinical experience.

At a recent meeting of the Imperial Royal Society of Physicians, of Vienna, Dr. Liholzky, assistant to Professor Breisky, showed a patient who, a year and a half before, had been operated upon by Dr. Hochenegg after the method of Kraske for carcinoma of the rectum. The patient had since been free from relapses, and on the 26th of October she was delivered of a child weighing 4,300 grammes. Owing to the operation after the method of Kraske, the pelvic outlet had undergone some changes of form, as the os coccygis was extirpated, the sacrum resected, and the pelvic ligaments and muscles cut through. The rotation of the head of the child during the act of delivery was nevertheless quite normal. This case was interesting because it showed that the rotation of the occiput toward the front took place in the middle of the pelvis, and that the influence which was in this respect attributed to the pelvic outlet had been exaggerated. This case, furthermore, showed that women upon whom the operation of Kraske had been performed were still able to become pregnant.

Professor v. Bamberger, our eminent and ingenious clinician and investigator, succumbed here on the 9th of November to a neoplasm of the lungs. Professor v. Bamberger was born on the 27th of December, 1822, in Prague, where he also took the degree of M. D. In Prague, Bamberger became Oppolzer's assistant, and was, later on, Oppolzer's assistant in Vienna. In 1854 he was called to Würzburg as an ordinary professor of medicine, and in 1872, after the death of his master, Oppolzer, he went to Vienna in the same capacity. There Professor v. Bamberger acted as ordinary professor of medicine and as director of the Second Clinic in the General Hospital until his last illness. Among his chief works may be mentioned "The Diseases of the Chylopoietic System" and "The Diseases of the Heart." The death of Professor v. Bamberger is much lamented by physicians and students as well as by patients.

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**Tobacco Vertigo.**—"Having investigated sixty-three cases of excessive use of tobacco," says the "Lancet," "Decaisne finds forty-nine to be over fifty years of age. More than half the cases presented, besides digestive derangements, alternating constipation and diarrhœa, an exaggeration of the urinary secretion and more or less abundant sweats, insomnia, and palpitation. In thirty-seven cases the smokers pursued the habit fasting, and in these vertigo was present, especially in the morning. The appearance of the vertigo coincides in one third of the cases with the suppression of the profuse sweats and marked diminution of the urinary secretion. Sometimes the vertiginous symptoms have been confounded with those due to cerebral congestion, and even to heart disease. Besides the absolute suppression of the use of tobacco, laxatives, warm baths, magnesia, and bitters are prescribed. Injections of ether subcutaneously also appeared to stop the vertigo in a few minutes."

**Double Athetosis.**—Although hemiathetosis has received much consideration, neither its pathology nor that of bilateral athetosis is properly understood. In bilateral athetosis, M. Brousse has observed transient contractions causing the foot to change its posture, being alternately like talipes varus and talipes equinus. Oulmont has recorded similar intermittent spasms in hemiathetosis. Articulation is also interfered with, and muscular atrophy may occur, though in double athetosis neither hypertrophy nor atrophy is the rule. A quasi-rhythmic spasm was also noticed in the shoulders in his case by M. Brousse. Tetany is sometimes followed by muscular atrophy. Cerebral wasting is the cause of most cases of bilateral athetosis, and probably this is accompanied by irritation of the pyramidal tracts. In some cases of chronic Bright's disease the atrophy of the brain occurs in patches corresponding to arterial disease.—*Lancet.*

**Post-epileptic Exhaustion.**—"Hemiplegia, paralysis and diminution of sensation, and perversion of the function of perspiration," says the "Lancet," "have long been known to occur after epileptic discharges. M. Féré has injected into the subcutaneous tissues of epileptic patients seven milligrammes of pilocarpine into the mid-line of the body immediately after a fit, or sometimes in the interval between the fits. Straus had previously employed pilocarpine as a means of detecting nervous degeneration. Féré found that the epileptic patients scarcely sweated at all when the pilocarpine had been injected immediately after a fit, thus pointing to the inference that the nervous centers controlling perspiration had been temporarily exhausted by the epileptic discharge. In hysterical hemianæsthesia, pilocarpine also fails to cause sweating in the anæsthetic areas."

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## SPONTANEOUS RUPTURE OF THE RECTUM.

In a recent number of "La semaine médicale" Quénu reports another case of this rare accident to be added to the list already collected by himself and Englisch. This case was that of a woman, aged sixty, thin and cachectic, who had suffered for six years from a prolapse of the rectum which she had always been able to reduce without difficulty. Being very constipated and addicted to the abuse of purgatives, she had frequently passed blood at stool. For six weeks before the accident she had suffered more than usual and had kept her bed as much as her household duties would permit.

On the day of the accident the patient made great efforts to have a passage, and suddenly felt something come out of the fundament, at the same time experiencing a severe pain all over the abdomen and losing a large quantity of blood from the anus. A physician was called at once and contented himself with prescribing a pill, and it was not until the next day that the patient was carried to the hospital.

Quénu, on being summoned, found the woman pale, feeble, and cold, but with her intelligence intact, and answering his questions distinctly but slowly. On raising the chemise, he found between the thighs a loop of intestine nearly a metre in length, shriveled up, escaping from the anus, and presenting by its serous surface. The part furthest removed from the anus for an extent of about 60 ctm. was black, shriveled, withered, and perfectly cold. The rest, composing the two ends of the loop, measuring 15 to 20 ctm. on each side, was swollen, red, bleeding, and marked with grayish spots. Soft adhesions united contiguous portions. The finger in the rectum along the hernial intestine easily reached a perforation in the anterior wall at the level of the *cul-de-sac* of Douglas. The belly was soft, only slightly painful even on pressure, and the pulse 120. The patient was anæsthetized in the ward, all antiseptic precautions being observed. He made a median abdominal incision, and found the intestine not at all distended and Douglas's pouch free from blood. He then surrounded the intestinal loop at the level of the anus with a heavy carbolized silk ligature and resected all the part beyond.

Having washed out the rectum, he passed the ends of the ligature through the rent in the rectum and brought them out through the abdominal wound. After an unsuccessful attempt to suture the rent in the rectal wall, he made the toilette of the peritonæum and carefully fixed with fifteen sutures of catgut the two ends of the resected loop to the lower angle of the abdominal wound. This done, the silk ligature was removed and the two ends of the gut were smoothed down to the level of the skin with the thermo-cautery. The rectum and vagina were stuffed with iodoform tampons, iodoform was sprinkled on the superior angle of the wound, and boric-acid compresses were placed over the artificial anus. The operation lasted an hour. In spite of efforts to revive the patient, she remained with subnormal temperature as before the operation, and died eighteen hours afterward. At the autopsy, a rent of 3 or 4 ctm. in length was found in the anterior wall of the rectum just below the peritoneal *cul-de-sac*. The veins of the rectum were varicose, and on the edges of the rupture the mouths of several torn veins were plainly to be seen. The rectal wall was infiltrated with blood and the mucous membrane presented the appearance of having been dissected up all around the rent.

This, so far as our information extends, is the nineteenth case of this peculiar accident on record, Kelsey ("Diseases of the Rectum and Anus") having previously collected eighteen from all sources. In most of them the pathology was the same as in this—an old prolapsus containing within its peritoneal sac loops of hernial small intestine. Quénu insists that the rupture, as in this case, is due in almost all cases to a previously existing varicosity in the hernial sac which has softened the rectal wall. But the question of treatment is the one of greatest interest, for the accident has generally proved a fatal one; and yet there seems no reason why, under favorable conditions, a patient with this injury should not be saved. The first indication has always been held to be the reduction of the prolapsed gut without laparotomy if possible, otherwise by means of it; and after this the sewing up of the rent in the rectum, also either with or without laparotomy. But Quénu now divides the cases into two classes and states the indications for treatment as follows: The intestine may present an appearance of health, owing to the rupture having been of very recent date or to the precautions taken to protect the hernial loops, or the intestine is changed in its appearance. The treatment varies in the two cases. The intestine being normal, the first care should not be to reduce it, but to make a proper toilette of the parts with warm water, or boric acid or carbolic-acid solutions, and protect them from further exposure by warm compresses. Next, the abdomen should be opened and, the rent being found, a tube should be passed into it from the abdomen, and the rectum and parts around the rent also washed. The prolapsed loop should then be gently drawn back into the abdominal cavity while the washing from the abdomen is continued. This procedure has the double advantage of cleaning the recto-vesical pouch, which generally contains blood, and also insuring the cleanliness of the loop as it is drawn back through the rectum. It remains then to suture the rent in the rectum, and this, as in the case reported, has not always been found possible. In the other class of cases the hernial mass has become altered by its sojourn between the patient's legs. As long as the lesions consist only of distension of the loop, with deepening of the color and ecchymotic spots, the previous line of treatment may be carried out as if the gut were healthy. But if the intestine has lost its vitality, if it is cold, black, swollen, and sphacelated, there is only one line to be followed—resection and the establishment of an artificial anus. If it were manually possible, the best plan would be to suture the ends of the gut to the rent in the anus, and establish an artificial anus in the rectal wall. It is not safe merely to open the prolapsed gut and leave nature to unite the hernial mass and the rent in the rectum, for fatal communication is liable to result between the rectum and peritonæum, as in a case reported by Stein, which proved fatal by general peritonitis on the sixteenth day.

Probably, all things considered, the safest plan would be the one followed by Quénu—the formation of an anus at the lower angle of the abdominal wound. It is not too much to expect a recovery from this accident under favorable conditions for operation. Most of those already reported have been neglected too long before operation. Smith's case occurred while he was operating for prolapsus with the clamp and cautery, and being, of course, immediately recognized, the hernia was replaced and the patient did well.

## *MINOR PARAGRAPHS.*

### ON THE IMMUNITY OF LIMEKILN-WORKERS FROM CONSUMPTION.

In the "Berliner klinische Wochenschrift" Dr. Halter publishes an account of his observations on the immunity which laborers in limekilns enjoy from tuberculosis, an abstract of which appears in the "Centralblatt für klinische Medicin." According to his observations, the causes are: 1. The great relative dryness of the air inhaled in and around the ovens. 2. The great heat of the latter, which results in (*a*) freedom from tuberculous germs; (*b*) considerable rarefaction of the air; (*c*) daily raising of the temperature of the laborer during the acclimatization; (*d*) a notable acceleration of the pulse, respiration, perspiration, and tissue changes during and after acclimatization.

### A MEDICAL CURIOSITY.

"Memorabilien" cites the following case from "Aerztliche Mittheilungen aus Baden": A farm-laborer and criminal, thirty-two years of age, who up to the time of the occurrence had always been in good health, after confinement for nine months began to pass large pieces of tape-worm. The usual treatment produced after four hours an enormous convolution of tape-worms, in which a whole row of heads was plainly visible. Careful examination revealed the presence of not fewer than twenty-five well-marked examples of *Tænia solium* in different stages of development, and all with the heads attached. Inquiry revealed that the patient had for years been in the habit of eating as much as half a pound of raw pork daily, which was sufficient explanation of the origin of the trouble. It seemed strange, however, that the bearer of this brood of tape-worms had not only shown no symptoms of their presence, but for the nine months of his confinement had grown fat on the prison fare.

### THE TELEPHONIC SOUND AND INDUCTION BALANCE.

It is gratifying to observe that Dr. Gidner's employment of the telephonic probe and induction balance for the purpose of detecting the precise situation of foreign bodies of a metallic nature is getting to be recognized as among the most efficient measures that can be resorted to for the purpose. This is abundantly evident from the way in which the device was spoken of, at a recent meeting of the surgical section of the German Congress of Naturalists and Physicians, by Dr. Kaufmann, of Zurich, an abstract of whose remarks appeared in the "Centralblatt für Chirurgie."

## ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 8, 1888:

| DISEASES. | Week ending Dec. 31. | | Week ending Jan. 8. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 17 | 4 | 22 | 7 |
| Scarlet fever | 203 | 35 | 341 | 52 |
| Cerebro-spinal meningitis | 6 | 3 | 4 | 3 |
| Measles | 257 | 12 | 552 | 23 |
| Diphtheria | 130 | 28 | 166 | 65 |

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 30, 1888, to January 5, 1889:*

Waters, William E., Major and Surgeon. Leave of absence granted in S. O. No. 129, November 9, 1888, Department of the Columbia, is extended one month. Par. 9, S. O. No. 2, A. G. O., January 3, 1889.

Ainsworth, Fred. C., Captain and Assistant Surgeon, will, by direction of the Acting Secretary of War, proceed to New York city, N. Y., and Brooklyn, N. Y., on business connected with the Medical Department. Par. 20, S. O. 302, A. G. O., Washington, December 29, 1888.

**Society Meetings for the Coming Week:**

Monday, *January 14th:* New York Academy of Medicine (Section in Surgery); Lenox Medical and Surgical Society (private); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement (annual); Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *January 15th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Franklin (annual), Kings (annual), Otsego (semi-annual—Cooperstown), and Westchester, N. Y.; Ogdensburgh Medical Association; Connecticut River Valley Medical Association (Bellows Falls, Vt.); Baltimore Academy of Medicine.

Wednesday, *January 16th:* Harlem Medical Association of the City of New York; Northwestern Medical and Surgical Society of New York (private); New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

Thursday, *January 17th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *January 18th:* Chicago Gynæcological Society; Baltimore Clinical Society.

Saturday, *January 19th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

## OBITUARY NOTES.

**Nathan Allen, M. D., LL. D.,** of Lowell, Mass., died on the 1st inst. in the seventy-sixth year of his age. The deceased was born in Princeton, Mass., in 1813, received his early education at Amherst College, from which he was graduated in 1836, and was graduated from the Pennsylvania Medical College in 1841. In 1847 he received the honorary degree of M. D. from the Castleton, Vt., Medical College. He settled in Lowell in 1841, and resided there up to the time of his death. He was for many years a member of the Massachusetts State Board of Charities, and from 1862 until within a few years an examining surgeon for pensions. His contributions to medical literature were numerous and related principally to the questions of physical degeneracy, longevity, the physiological laws of human increase, and subjects of a like nature. He was a member of the Massachusetts Medical Society.

**Thomas Goodwillie, M. D.,** of Vernon, Vt., a brother of Dr. D. H. Goodwillie, of New York, died of pneumonia on Saturday, December 22, 1888. His health had been infirm for some years previous to his death, but this was not permitted to shade his intercourse with the outside world. His skill as a physician was widely recognized, although he was unassuming and somewhat reserved in manner. He had much practical knowledge of the questions of the time, and was a member of the Legislature at the time of his death. He was strong in his convictions, without wounding the feelings of his opponents. His genial presence and elevated professional character had endeared him to a wide circle of patients and friends.

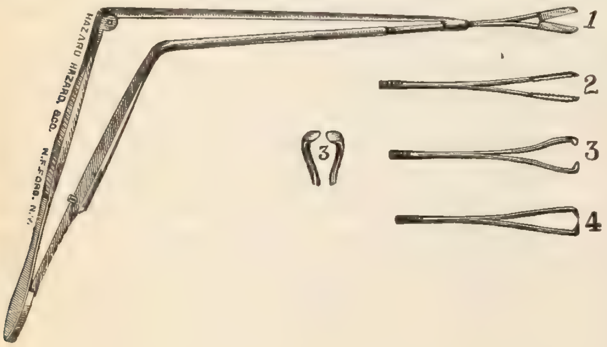
## Letters to the Editor.

### AN IMPROVED CANNULAR AURAL FORCEPS.

12 West Thirty-fifth Street, New York, *December 28, 1888.*

*To the Editor of the New York Medical Journal:*

Sir: In the "New York Medical Journal" of December 15, 1888, is described and pictured "an improved cannular aural forceps, combined with scissors," by Dr. W. H. Carmalt, of New Haven. This instrument is almost identical (see accompanying cut) with the "combination ear forceps" introduced by Dr. Sexton and made by Mr. W. F. Ford, the surgical instrument manufacturer, excepting the handle on Dr. Carmalt's forceps, which may be found cumbersome by many. Dr. Carmalt states that neither he nor his instrument-makers have been able to discover the publication of anything "just like it"! Of course, no instrument "just" like the one he presents can be found described anywhere, but this scarcely warrants the omission to mention the combination forceps which his so nearly resembles. Descriptions of Dr. Sexton's instrument may be found in the "Transactions of the American Otological Society" for 1885, and also in his brochure on the "Classification and Treatment of over Two Thousand Consecutive Cases of Ear Diseases," etc., published by George S. Davis, Detroit, Mich., 1886.



C. J. Colles.

### THE ORGANIZATION OF THE ROOSEVELT HOSPITAL.

581 Fifth Avenue, New York.

*To the Editor of the New York Medical Journal:*

Sir: Will you not yield me space to correct a serious error of statement made by the Medical Board of the Roosevelt Hospital in the tribute paid, and entered on the minutes, to their late distinguished colleague, Dr. Sands?

"On May 30, 1882, he was appointed the sole attending surgeon to the hospital. He had long advocated the plan of organization with a single responsible head to each department—a plan till then untried in any large hospital in the United States."

I held the same relative position—that of chief surgeon, having sole control of the surgical division—of the State Emigrant Hospitals at Ward's Island from 1873 to the end of the year 1880. The hospital has 800 beds, with a capacity for 1,200. At no time during my term of eight years' attendance had I less than double the number of patients than the Roosevelt Hospital at the time of Dr. Sands's service.

Morris H. Henry.

## Proceedings of Societies.

### NEW YORK ACADEMY OF MEDICINE.

#### SECTION IN SURGERY.

*Meeting of November 12, 1888.*

Dr. Robert Abbe in the Chair.

**Supra-acromial Dislocation of the Clavicle.**—Dr. C. A. Powers showed a man who had had a complete dislocation of the clavicle in which a full restoration had been accomplished. (See page 37.)

The Chairman thought, on examination of the callus, that there had been a disruption of the ligaments about the articulation, which, in healing, had aided in this somewhat rare result of complete restoration of a dislocated clavicle.

**Cerebral Hæmorrhage.**—Dr. Powers then presented a man who had been brought to the Chambers Street Hospital suffering from a hæmorrhage on to the brain from a rupture of the middle meningeal artery. The site of the effusion had been located by a study of the aphasia from which the patient suffered; the skull had been opened over the clot, and another opening through the cranium had been made at a little distance from the first opening to secure drainage. Quite a portion of bone near the first opening had undergone necrosis and sloughed away, so that altogether a piece as large as a silver dollar had been removed at that point. Nevertheless, the man had made a good recovery, and the wounds had healed over without difficulty, although the man had been working in a dissecting-room not long after the operation, and without any special dressing over the site of the operation. No attempt had been made to restore the portions of bone removed.

The speaker attached all importance to the making of a counter-opening in these cases to secure full drainage, and gave a history of this plan of procedure. The idea had first been suggested by Dr. R. F. Weir.

**Tetanus Hydrophobicus.**—Dr. G. B. Phelps read the history of a case where the patient, a lad, had been struck on the head with a stone. Examination showed a contused wound in the frontal bone, above the zygoma and level with the eyebrow. Redness and swelling appeared after a time, which were subdued by appropriate applications. Some time later a paralysis of the left facial nerve appeared, then the jaws closed by a spasm of the masseters, and on the eleventh day attempts at swallowing produced very painful spasms in the throat and neck. These continued to the last, but subsequently other parts became rigid, and the boy died on the sixteenth day with embarrassed breathing and heart failure. The autopsy showed œdema of the lung and cerebral congestion only. The speaker considered it as a typical case of head-tetanus, so called. This was an affection of the nervous system, due, as generally believed, to a wound received in a region supplied by some one of the cranial nerves. It was usually on the same side as that supplied by the injured nerve. In one recorded case, where the wound had been on the nose, the spasm had been developed on both sides. In only one or two cases out of twenty-two which he had collected, the spasm had been on the opposite side. In thirteen out of twenty-five cases on record there had been spasms and pain on attempts at swallowing. Chloral had given the best results in treatment. Autopsies had revealed nothing as to the cause of the spasms. The affection had developed only once after a surgical operation. If we favored the idea that the infectious matter causing it came from the horse, it could not be denied that the missiles producing the wounds leading to head-tetanus had in many cases been taken from the streets, where contamination by the droppings of horses was always possible. Roser had thought the paralysis of the facial due to a pressure brought to bear on the seventh nerve in its passage through the temporal bone as a result of the external injury. Bernhardt thought the disease might be connected with the growth of a tumor in the medulla. It mostly came after slight wounds, but sometimes in wounds which were doing well, and sometimes, though not more frequently, in wounds which were doing badly. It came indifferently in the several stages of healing, and sometimes after healing was complete. It was comparatively a rare affection, and the proportion of cases of injuries to the head in which it appeared was exceedingly small compared with those in which it did not appear.

The Chairman said that the paper and the questions raised in it recalled to his mind the many cases of tetanus which came into our hospitals a few years ago which were caused by slight wounds from toy pistols.

Dr. R. W. Amidon discussed at length the mode of origin of the disease, and especially its relation to the site of the injury. There was no doubt that tetanus was a septic disease, but the question naturally arose in the case of this so-called head-tetanus why the symptoms should be so local, and confined, for a time at least, to the region of the head, and especially why the paralysis usually appeared on the same side as the injury. While there was much about the affection that was hard to understand, the speaker did not think that it could be sharply divided off from other forms of tetanus. Although head-tetanus usually appeared after injuries to the face, there was one instance in which it had followed a wound received in the shoulder, and, taking this in connection with the two instances of opposite-sided paralysis, the speaker thought it safe to conclude that the disease was a general one, and that a better name for it would be *trismus lateralis*. He considered that tetanus and hydrophobia were much alike in many points, the main difference being that tetanus came early. The same nerves were affected largely—that is, the eighth pair. Was it not significant that the cases of tetanus which we called head-tetanus went on to death in general convulsions? In one case of tetanus in which an autopsy had been made changes had been found in the spinal cord and medulla, and especially about the origin of the spinal accessory, hypoglossal, and glosso-pharyngeal nerves; also areas of softening in the medulla about the motor nuclei of the fifth pair of nerves. He believed that study of the medulla and cord would in time show lesions present in all forms of tetanus which by their presence caused the symptoms of the disease. The facial paralysis of tetanus hydrophobicus came on so early and so suddenly, he believed, owing to the position of this lesion in the nervous centers. The dysphagia and spasm on attempts at swallowing might depend on a similar irritation of the centers for the glosso-pharyngeal, hypoglossal, and spinal accessory nerves. It was well known that with the progress of the disease more and more of the various groups of muscles became involved throughout the trunk and extremities.

The Chairman observed that head-tetanus was probably not a different thing essentially from general tetanus. It involved the trifacial nerve, and so was carried into the medulla.

**Improved Endoscopic Apparatus.**—Dr. W. K. Otis read a paper in which he gave an account of various instruments which have been devised for making the urethra accessible to sight and to limited and localized medication. He then proceeded to exhibit an improved apparatus which he had arranged, in which illumination was furnished by a small Edison incandescent light. His obturator had its edge at the end of the tube faced with rubber and could be introduced without pain or bleeding, the rubber being afterward withdrawn through the tube. He had an attachment specially designed to remove the secretions on the urethral wall, which so obscured the field, without the labor of constant swabbing.

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## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN NEUROLOGY.

*Meeting of November 9, 1888.*

Dr. W. R. Birdsall in the Chair.

**Report of a Case of Syringomyelia with Autopsy, and Exhibition of Microscopical Sections of the Spinal Cord.**—Dr. Ira Van Gieson read a paper with this title. He remarked that it was the first case of the kind in this country where an autopsy had been held and specimens preserved. The patient had been affected with soreness in the epigastrium and the left foot, numbness and tenderness from the waist down, a girdle sensation, loss of power to walk, dragging of the left foot, incontinence of urine, œdema of the feet, and disturbed reflexes. Constipation had been very marked much of the time, bedsores had developed toward the last, and he had died in the twentieth month, completely bedridden, with a high temperature. On autopsy, the cord was found enlarged in the upper lumbar region by a sarcomatous neoplasm of a fusiform shape. This glio-sarcoma was surrounded by areas of parenchymatous myelitis, with a connective-tissue boundary wall, and small white nodules of sarcomatous cells scattered in the substance of the cord below the larger growth. In the interior of the tumor was a tubular cavity, with degenerated matter in the form of pus at its bottom, representing what had been the core of the neoplasms now in degeneration owing to the loss of circulation at points above and below.

Dr. M. Allen Starr remarked that the diagnosis of the condition could not be made during life. In the pure form of the disease—that where only the anterior gray horns and the anterior columns of the cord were involved—no diagnosis would be possible between this disease and progressive muscular atrophy; nor between it and tabies, if the posterior horns and columns were involved. In the case described by Dr. Van Gieson, where the cord had been invaded both anteriorly and posteriorly, there could have been no distinctive symptoms. He asked the opinion of Dr. Van Gieson as to the mode of formation of the central cavity.

Dr. Van Gieson replied that he thought we ought to have in mind two possible modes of formation for these cavities: the first a non-apposition of the walls which normally closed in to form the cord and its central cavity; and the second a cavity remaining from the degeneration of the core of the neoplasm. The two might occur together; and it would not be a surprising matter to have a pre-existing tubular cavity, with a small mass of embryonal matter somewhere in its wall forming the basis for a tumor to start from. The latter might naturally have a wall of connective tissue about it of a different sort from that about the upper part of the cavity, where the hydromyelitis had thrown out its products, as in the case he had described.

**Preliminary Report on Experiments made to locate the Sight Centers in Various Animals, with Exhibition of Animals and Specimens.**—Dr. W. G. Thomson, assisted by Dr. Sanger Brown, placed before the section an account of the methods he had used in the experiments above named, and gave a *résumé* of the conclusions which they had partially arrived at. He remarked that the results reached by many experimenters had been doubted because they had not been verified at the time by competent outside witnesses. He reviewed the manner of decussation of the optic tract at the chiasma, and gave the theories of von Gudden, Kellerman, and others as to the arrangement of the crossing fibers. Michael had maintained that the decussation was total for monkeys, cats, rabbits, and sometimes for man. His experiments had led him to think it total in dogs and cats, but not in monkeys. Contrary to Dr. Dalton's theory, they had found that extirpation of the occipital sight-center was followed in time by a slow recovery of sight, after a period of total blindness, in case the amount removed was small. If it was large, the sight did not return even after three months, although complete health might be otherwise regained. If it returned at all it would do so after a month's time. Only six of twenty-three animals experimented on had died of the operation on the brain.

The conclusions reached at this stage of their experiments were as follows: 1. The cortical center for perception of sight was in the occipital lobe in cats, dogs, and monkeys. 2. Lesions in this region which were exclusively behind the angular gyrus, and which did not affect it, invariably produced blindness of the opposite eye in cats and dogs, and homonymous hemianopsia in monkeys in the same side as the lesion. 3. In some monkeys there was apparently greater blindness on the side opposite to the lesion. 4. Removal of one angular gyrus in the monkey produced no disturbance of vision of a permanent character. 5. In cats and dogs the visual center occupied a considerable area, for complete recovery resulted in about a month from lesions which might affect as much as two occipital convolutions. No changes in intellect or pupillary reflexes had seemed to him to be consequent on any of his operations.

Dr. Sanger Brown thought that operations in the temporosphenoidal region, on account of an interference with the transverse connection of the two halves of the brain, did produce a species of idiocy, as shown in the manner of eating and the curiosity with which the monkeys would examine their cage and surroundings, as if seen for the first time.

Dr. J. E. Weeks discussed the question of the manner of decussation of nerve-fibers at the optic chiasma in various animals, in fishes, and in man; and concluded that in man the manner of distribution varied much in different individuals. The optic chiasma had been divided in kittens at its center, without destroying the sight entirely in each eye, showing there could not be a complete decussation there.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN OBSTETRICS AND GYNÆCOLOGY.

*Meeting of October 25, 1888.*

Dr. J. E. Janvrin in the Chair.

**The Value of Hysterorrhaphy as a Primary or Consecutive Operation in Uterine Displacement.**—Dr. C. C. Lee read a paper with this title. The operation, he said, was comparatively a new one, but was not difficult, and it gave relief in a class of cases which had been hitherto entirely intractable. It consisted in sewing a displaced uterus to the anterior abdominal wall. It had first been done as a supplementary operation, after the performance of ovariotomy. Of late it had become a primary operation for the relief of severe cases of prolapsus and retroflexion, and was thus somewhat allied to Alexander's operation in its object. It took the place of the latter, and also gave relief in a class of cases in which the latter was excluded from use.

Omitting any allusion to a large number of cases in which he had done the operation as a secondary one to ovariotomy, the speaker then gave an account in detail of six cases in which he had done the primary operation, with complete recovery in four of them. All were cases of retroflexion with adhesions, some accompanied by lacerations incidental to childbirth, others by prolapse of the tubes and ovaries, salpingitis, and dysmenorrhœa, others by severe hæmorrhages. All these women had been in a miserable condition from constant suffering, which ordinary measures in the hands of the best physicians had entirely failed to relieve. He had found the operation easier than that for the removal of the appendages. It relieved conditions that were fully as serious as those for which the latter was performed. In no instance had he had a marked rise of temperature following hysterorrhaphy. At the present day the operation might be considered as a safe one. In making the sutures he used fine Chinese silk. The suture was passed, not through the vascular fundus of the uterus, but on each side of the fundus, through the proximal ends of the broad ligament and including the round ligament; and in making the suture through the anterior abdominal peritonæum he included the subperitoneal fat as well. This suture he left in. He much preferred the Chinese silk to silk-worm gut, catgut, or silver wire. In breaking up the adhesions he used only his fingers. The only other radical procedure which gave relief in the same class of cases as hysterorrhaphy did was the method of stretching out the adhesions by massage, as now practiced in Europe. As for Alexander's operation, that was of value only in the cases where the uterus was freely movable.

Dr. Howard Kelly, of Philadelphia, thought the operation a valuable addition to our resources, but that it must not be done until all ordinary means had been tried without success. The operation was a safe one. Of ninety-two operations of which we had record, only one had proved fatal, and that had been in his own hands. In this case the intestine became adherent at the point where the suture was passed, and death took place from ileus in spite of a special operation for the repair of this accident which he had done. He considered the mechanical basis or principle of the operation unexceptionable. The merest thread was sufficient to keep the uterus tilted forward in a position where the pressure of the abdominal respiratory rhythm came upon it from behind and kept it there. He thought there were four conditions in which the operation should be employed: 1. Where Alexander's operation had failed to relieve. 2. Where there were adhesions binding the uterus in retroflexion, unless the operator preferred the method of stretching them by massage, and here he thought an effective pressure could be brought to bear on the uterus from the fingers in the rectum. 3. Where the uterus was prolapsed. 4. When a tumor had been removed; here it was always best to make sure of a restoration of the uterus to a normal position. In operating, the incision should be made as low as possible and the uterus attached low, to avoid the danger there would otherwise be of the intestine becoming caught between it and the abdominal wall. When the broad ligaments were stretched out into a fan-shaped vascular curtain he lifted them out and reached back so as to get a part that was not vascular, sometimes catching his suture through the ovarian ligament itself, which raised the ovaries on either side at the same time that it drew the uterus forward.

Dr. Paul F. Mundé agreed with Dr. Kelly that it was safe enough to be used without hesitation whenever it seemed indicated. But he also agreed with him that, in case the adhesions which bound the uterus posteriorly were very thick, it was one of the most difficult of operations, and in other cases might on that account be impossible to do. He thought we must in the future learn to recognize the latter class of cases in advance.

Dr. H. J. Boldt discussed the method of dealing with these cases by massage and exercises as practiced by Brandt in Sweden [for an account of which see the Journal of April 14, 1888]. He remarked that great care must be used in making a diagnosis previous to beginning this form of treatment, else great harm might be done, as in case of pyosalpinx being present. In very fat women the treatment could not be carried out for obvious mechanical reasons. Massage of neighboring parts following treatment relieved the irritation which resulted from the stretching of the adhesions; and in case inflammation threatened, cold was to be applied. In many cases it was possible to get good results only by working during the menstrual period. He thought hysterorrhaphy should be used after the Brandt method had failed, and in those cases where the adhesions were veil-like. He had got good results from temporary transfixion, passing his suture through the whole abdominal wall and through the peritonæum of the fundus. Some uteri were very vascular; if hæmorrhage proved severe he packed in iodoform gauze, but small amounts of blood he left to be absorbed. He thought it important to remember that several thousand women had been cured by Brandt's method, and that without a single accident. It happened quite often that after others had failed to get relief by his method, Brandt himself had succeeded in bringing about a complete recovery.

Dr. H. C. Coe remarked that he had often been disappointed in the results of ovariotomy by finding the pain and hæmorrhage still persisting. It had proved to him that it was necessary to break up any adhesions that were present about the uterus, especially posterior adhesions which held the uterus in retroflexion. Even if hysterorrhaphy did not keep the uterus up permanently in an anterior position, it at least kept it raised until the site of the recent adhesion was healed over, so that if it fell backward again it remained freely movable. In his operations he always had an assistant raise the uterus on two fingers while he disengaged and sutured it.

Dr. W. Gill Wylie had met with a number of cases where he had produced complete relief by curing an endometritis and subinvolution in the ordinary ways, even where there was a retroflexion with adhesions. On the other hand, he had sometimes opened the abdomen, expecting to do ovariotomy, and had found everything normal except for adhesions between the uterus and surrounding parts. He thought it was considerably easier to shorten the round ligaments inside the abdomen than to do Alexander's operation or hysterorrhaphy, while it accomplished exactly the same end. Then there would be no pocket for intestines to fall into. It was only necessary to scrape raw a section of the round ligament, and then fold and tie it together at that part. When he tied off the broad ligament in doing ovariotomy he simply included a portion of the round ligament and so raised the uterus to its normal position.

Dr. A. P. Dudley asked, from a purely mechanical standpoint, how it could be expected that two sutures through the peritonæum of the sort that Dr. Lee and Dr. Kelly had described should retain the uterus in place in spite of the movements imparted to it by the pressure of the pelvic diaphragm and of the thoracic diaphragm during labor, defecation, or other exertions, or by the uprise of a full bladder. He thought the organ must very commonly become free in a short time, although the suture might hold it up till the adhesions had had time to heal, the circulation to become re-established, and the uterus to regain its normal weight.

Dr. Lee replied that it was the main and assured result of the operation to make the uterus freely movable and to relieve the patient of all her distressing symptoms, whether the uterus remained fastened to the anterior abdominal wall or not, and this after all other measures had been tried without the least benefit.

Dr. A. H. Buckmaster, of Brooklyn, spoke of the value of tamponing the vagina for gradually overcoming adhesions.

Dr. Buckmaster and Dr. J. S. Hawley then continued the discussion on electricity in the treatment of extra-uterine pregnancy.

## NEW YORK PATHOLOGICAL SOCIETY.

*Meeting of October 24, 1888.*

The President, Dr. William P. Northrup, in the Chair.

**Puerperal Septicæmia.**—Dr. T. Mitchell Prudden presented the uterus of a woman who had died shortly after being delivered of a dead fœtus. The presentation had been transverse, version had been performed, and the cervix had been considerably bruised. For a time the temperature had risen to 102° F., and only seven ounces of urine had been passed. The next day the temperature had fallen to normal; no signs of inflammation had appeared in the genital tract; but the patient had shown marked signs of septic poisoning, failed rapidly, and died of heart-failure and exhaustion. The autopsy showed scattered phthisical deposits and a badly lacerated and gangrenous cervix, but a perfectly normal peritonæum. However, the veins about the cervix and ovary were thrombosed. The clots were old and full of bacteria. The woman had died of infectious and poisonous matters carried into the circulation, without the development of any inflammation whatever. The speaker distinguished such cases from those which might be called puerperal pyæmia, where there was infection from without, with inflammation and fever.

**Fæcal Concretions.**—Dr. Hermann M. Biggs presented a vermiform appendix ulcerated and perforated. The contained concretion had escaped into the abdomen. He believed, judging from his own experience, that in by far the greater number of cases of fatal inflammation it resulted from the escape of fæcal matter into the abdomen.

He showed a piece of a large intestine on the inside of which were seen a large number of small pouches of mucous membrane projecting into the muscular wall. He thought many ulcerations of the intestine might begin by lodgments of fæcal matter in such pouches. He had seen a case where a large impacted mass of fæcal matter was found in the vermiform appendix, but where the opening of the latter was so narrow as barely to pass a pin-head. Many things led him to believe that impactions were formed little by little in the vermiform appendix by accretion, and that they did not enter as such from the bowel. He had never met with a case of disease of the vermiform appendix where he had found a foreign body which consisted of anything but fæcal matter. In a very few cases the mass had had as a nucleus a seed, raisin stem, or small mass of inspissated mucus. These fæcal masses often had the shape and general appearance of a date-seed. He thought the idea so wide-spread among the laity (and to a certain extent among physicians) that disease of the vermiform appendix was usually due to the entrance of a grape-seed or other such foreign body had its foundation in a lack of careful examinations.

In the discussion which followed, instances were given where pins had entered the vermiform appendix, and a case was related, which the late Dr. Alonzo Clark had reported, where the mass was found to consist of many layers of strawberry-seeds; but Dr. Prudden, in giving his experience, said that a large number of such concretions had been brought to him for examination, and that, furthermore, he had been earnestly on the lookout for the supposed seeds, but had never yet found these masses containing anything but fæces.

**Pulmonary Gangrene.**—Dr. L. Emmett Holt presented the lungs of a child in whom croupous pneumonia had gone on to end in scattered areas of gangrene in the lung surrounded by thrombi, accompanied by a profuse fibrinous exudation into the pleural cavity. There had been a very high fever from the beginning of the child's sickness, succeeded by collapse and heart failure which made no response to stimulation.

Dr. Prudden declined to make a search for a special bacterium in the gangrenous foci of the specimen, since a guarantee could not be given that the specimen had been removed under full antiseptic precautions and that it was not more than two hours old. He stated, however, that in four instances where he had examined the lungs of children who had died of croupous pneumonia he had found a lung looking like that of acute lobar pneumonia with pleurisy, and many bacteria present which he had identified as the pneumococcus of Fraenkel.

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## NEW YORK NEUROLOGICAL SOCIETY.

*Meeting of November 6, 1888.*

The President, Dr. George W. Jacoby, in the Chair.

**Parenchymatous Neuritis.**—Dr. W. H. Thomson read a paper on this subject, including the history of a number of cases.

Case I was that of a man of fifty-six years who had formerly been engaged in the lumber business, and had been obliged to stand in water containing floating ice for hours at a time. This patient's symptoms had first pointed to central spinal trouble, but later had been those of a multiple neuritis. They had, however, been gradual in their onset and there had been no evidences of pressure. There had been no shooting or lancinating pains. The actual cautery had been applied over the spine and the hot glass rod over the sensitive nerve-trunks. Nitro glycerin had given the greatest relief from pain in this case.

Case II was that of a man of thirty-five years, convalescing from diphtheria. There was no pain, but the laryngeal and pharyngeal paralysis was so profound that the general health suffered.

Case III was that of a boy convalescing from typhoid fever. There were pains in the legs and feet, with dropping of the feet.

Case IV was that of a woman confined to her bed for three months in the course of phthisis. There were pains in this case in the feet extending to the knees, and in the hands, with dropping of the ankles and wrists, which progressed steadily till death, when extensive nerve degeneration was found without any evidences of inflammatory action. The case was presented as a typical example of a wide-spread non-inflammatory degeneration of the nerves. It was a parenchymatous neuritis analogous to that which could be produced by a ligature. The origin and history differed from that of an inflammatory neuritis, however much it might resemble this condition in its ultimate results. In the case of typhoid fever and phthisis the degeneration might have been due to a mechanical cause—pressure from the loss of the surrounding fat. The fact that the vagus was implicated in the latter disease did not disprove the theory, as no statement had been advanced in regard to the condition of the bronchial glands. The theory of a non-inflammatory parenchymatous nerve degeneration was important, as the treatment of such cases would differ from that of cases of inflammatory origin. In the latter, antiphlogistic and soothing treatment was indicated, while in the former stimulating applications were required. It was questionable whether the term neuritis could be correctly applied to this type of the disease.

Dr. L. C. Gray had not heard the commencement of the paper and did not understand why Dr. Thomson objected to the term neuritis. He thought that the symptoms could be scarcely classed under any other name. There had been, as he understood, downright pain in the course of the nerves, and eventually paralysis and atrophy. These were the clinical symptoms of neuritis and measured the severity of the neuritic lesion. The treatment of neuritis was, he believed, except that of traumatic neuritis, still *sub judice.* Since attention had been called to the disease everybody had probably met with cases in which no local measures seemed to do any good. Quinine, the salicylates, and iron had been most beneficial in his own cases. Change of air was to be recommended. Even in the paralytic stage it was his custom to remove the patient to another part of the city, or even from a lower floor to a higher floor in the house. Change of location was especially indicated in the cases arising in our somewhat malarial suburbs.

Dr. M. A. Starr applied powdered menthol diluted with starch under a flannel bandage for the relief of the pains of multiple neuritis.

The President did not find the diagnosis of neuritis so easy as Dr. Thomson had represented it, especially in typhoid fever. Myositis was a more probable lesion in typhoid fever. Zenker had even stated that neuritis was never found in this disease. As to the distinction made between the inflammatory and degenerative processes, both might be found in the same case. Which process was primary and which secondary was still a question.

Dr. Thomson said that he had intended to call attention to only a single point, and necessarily had neglected many others touched upon in the discussion. He had intended to call attention simply to the impropriety of the term neuritis as applied to the process in the cases which he had described. There was no reason to suppose that the process in the case of phthisis had been inflammatory. The inflammatory process had certain definite characteristics. These were vascular disturbance and infiltration with serum and leucocytes or living matter. In the neuritis of alcoholism, both in private and in hospital practice, he had observed circulatory and nutritive changes; there had been the same tendency as in the inflammatory processes in other parts of the body. There were evidently inflammation of the sheath of Schwann and constriction of the nerve. These conditions contrasted with those in the cases which he had described. In the treatment of true neuritis he had used an application of equal parts of oil of peppermint and olive oil, a preparation similar in action to that which Dr. Starr had recommended.

Dr. Gray inquired whether Dr. Thomson recognized no inflammatory process within the sheath of Schwann.

Dr. Thomson replied that he knew of no changes within the sheath of Schwann which could be called inflammatory.

# Book Notices.

*Hand-book of Historical and Geographical Phthisiology.* With Special Reference to the Distribution of Consumption in the United States. Compiled and arranged by GEORGE A. EVANS, M. D., Member of the Medical Society of the County of Kings, New York, etc. New York: D. Appleton & Co., 1888. Pp. 8–9 to 295. [Price, $2.]

THIS work presents a sketch of the development of our knowledge of pulmonary consumption from the time of Hippocrates to the present day, then details some ascertained facts regarding the geographical distribution of this disease throughout the world, and finally presents some statistics regarding the geographical distribution of consumption in the United States, arranged so as to make them available for reference.

There is little original matter in the work; it is made up almost entirely from translations from Hirsch's great work, "A Hand-book of Historical and Geographical Pathology," from compilations from the "Tenth U. S. Census Reports," and shorter abstracts from other writings and papers on tuberculosis.

The book contains much valuable matter conveniently arranged for reference. This matter is unquestionably derived from the best sources, and the work will consequently be found to be very useful to those interested in this important subject.

The author does not express his personal views regarding the ætiology of the disease, but contents himself with the quotation of the views of other writers. It should be remembered in this connection that in bacteriology opinions rapidly lose their value with the lapse of time. The developments have been so rapid in this field that an opinion two or three years old can have in many instances but little force now, however valuable it may have been when expressed.

The author's views regarding treatment with aseptic air seem to be based upon an erroneous conception of the pathology of tuberculosis and will hardly be accepted by many competent pathologists. This, however, does not detract from the value of the book.

Too little attention has been given to the historical and geographical study of medicine, and we would warmly welcome this contribution to this aspect of medical literature.

*Elements of Practical Medicine.* By ALFRED H. CARTER, M. D. Lond., Member of the Royal College of Physicians, London, etc. Fifth Edition. London: H. K. Lewis, 1888. Pp. xvi–472.

THIS book, having been before the public during the past eight years, needs no introduction for its last edition. Owing to its conspicuous brevity and simplicity, it will doubtless continue to be in demand by young students as a preliminary to more exhaustive works; and also by those whose studies can not be protracted. Many chapters have been rewritten and some additions made. It is still a strictly elementary work, but will on that very account fill a distinct need, by what its author has tried to make its "broad truthful sketches" of the principal diseases, their causes, pathology, symptoms, and treatment.

*The Urine and the Common Poisons*—Memoranda, Chemical and Microscopical, for Laboratory Use. By J. W. HOLLAND, M. D., etc. Illustrated. Second Edition, revised and much enlarged. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. vi–9 to 65. [Price, 75 cents.]

THIS little manual in its present edition is a model of condensed and finely arranged data for daily use in the laboratory. Excellent illustrations are given of the ordinary urinary deposits as seen under the microscope. Its price puts it within reach of everybody.

*A Compend of Human Physiology.* Especially adapted for the Use of Medical Students. By ALBERT P. BRUBAKER, A. M., M. D., Demonstrator of Physiology in the Jefferson Medical College, etc. Fourth Edition, revised and enlarged. With Illustrations and a Table of Physiological Constants. [Quiz Compends, No. 4.] Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. viii–9 to 174. [Price, $1.]

THE concise and clear language of this compend answers its purpose perfectly. Special value is to be ascribed to the description of the nervous system. The principal features of the electrical properties of the nerves, a scheme of the conducting paths in the spinal cord, a diagram showing the course, through the spinal cord, of the motor and sensory nerve-fibers, and especially the topography and physiology of the cerebral basal ganglia, are very satisfactorily explained.

These points constituting the puzzling physiological problems for students, owing to the lack, as a rule, of proper description and diagrammatic representation in text-books, are rendered readily comprehensible.

*The Diseases of the Chest, including the Principal Affections of the Pleuræ, Lungs, Pericardium, Heart, and Aorta.* By VINCENT D. HARRIS, M. D. Lond., F. R. C. P., etc. With 55 Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. xi–420. [Price, $2.50.]

THIS book is one of the Students' Guide Series; but it is not improbable that, as its author hopes, many who have used it as students will keep it in easy reach on their book-shelves long after the period of preliminary study is past. It is written to meet the great requirements for practical usefulness in these days when medical literature has attained such bulk: namely, brevity, good arrangement, and abundant illustrations. The style in which the book is written is the same as that adopted by perhaps a majority of the leading medical lecturers of the present time, in which the predominating tendency is to bring the emphatic points into all possible prominence, both with the voice and by blackboard tabulations or charts. The same results are obtained in the case of Mr. Harris's work by a judicious use of Italics and of heavy type where emphasis is desired; and by tabulations very conveniently arranged in contrast for the purpose of diagnosis. Many of the illustrations are delicately tinted, and their effectiveness is thus much enhanced. By excluding all mere suppositions, disputed questions, and rare phenomena from his volume, Mr. Harris has been able to incorporate the substance of several works written in a different manner in this single book, while at the same time, thanks to the resources of modern printing and engraving and to thorough arrangement, the context can be followed without fatigue. The book is likely to be welcomed by students as an invaluable aid to their imperfect notes of lectures, and as a relief from the elaborate disquisitions of the exhaustive standard works of the day. The first chapter considers very fully the normal chest; the second takes up the symptoms of disturbance; the third deals with the physical examination of the chest and is a model of skillful arrangement. The pulse and its indications are given a separate chapter. In the remarks on treatment given in connection with each disease, and also in the chapter on symptoms, the best ideas advanced during the last few years are carefully stated.

Many practitioners will on this account find the book valuable as a handy and reliable book for reference.

*On the Relief of Excessive and Dangerous Tympanites by Puncture of the Abdomen.* A Memoir. By John W. Ogle, M. A., M. D. Oxon., F. S. A., etc. London: J. & A. Churchill, 1888. Pp. 111.

In this little work, after a short introduction to the subject of puncture of the abdomen for the relief of excessive tympanites, very extended citations are made from medical writings from the earliest times. These occupy more than fifty pages, and following them are detailed "the results of some inquiries made of friends, colleagues, and others as to their individual and personal knowledge and estimate of the use of puncture in tympanites." The opinions of a large number of medical men are given and many cases are cited. The general testimony is decidedly in favor of the resort to puncture of the abdomen when the tympanites is so great as to interfere seriously with respiration, heart's action, etc. Some unfavorable results (oozing through the puncture and the escape of gas into the peritoneal cavity) are reported. The writer, in conclusion, emphasizes "the absolute necessity of using a very fine instrument, previously disinfected, and of not delaying the operation too long." The work contains some valuable suggestions, but would be more readable and quite as valuable if the 111 pages had been condensed into 30 or 40. It is extended to a far too great length, and too little emphasis is placed upon the danger of this operation. The style of the writer is decidedly prolix.

*Physicians' Interpreter in Four Languages.* Specially arranged for Diagnosis by M. von V. Philadelphia: F. A. Davis, 1888. [Price, $1.]

This little book contains in four parallel columns most of the ordinary words in English, French, German, and Italian that a physician would need in dispensary or hospital service. Many other books of the same sort with more extensive vocabularies have been published, but, from their size, and from their being usually devoted to equivalents in English and one other language only, they have not had the advantage which is pre-eminent in this—convenience. It is handsomely printed, and bound in flexible red leather in the form of a diary. It would scarcely make itself felt in one's hip-pocket, and would insure its bearer against any ordinary conversational difficulty in dealing with the foreign-speaking people who are constantly coming into our city hospitals.

## BOOKS AND PAMPHLETS RECEIVED.

A Clinical Atlas of Venereal and Skin Diseases, including Diagnosis, Prognosis, and Treatment. By Robert W. Taylor, A. M., M. D., Surgeon to Charity Hospital, New York, and to the Department of Venereal and Skin Diseases of the New York Hospital, etc. Illustrated with One Hundred and Ninety-two Figures, many of them Life-size, on Fifty-eight Colored Plates. Also many Large and Carefully Executed Engravings through the Text. Part III, Venereal Diseases. Part IV, Diseases of the Skin. Philadelphia: Lea Brothers & Co., 1888.

The Pathology and Treatment of Displacements of the Uterus. By Dr. B. S. Schultze, Professor of Gynæcology, Director of the Lying-in Institution and of the Gynæcological Clinic of Jena. Translated from the German by Jameson J. Macan, M. A., M. R. C. S., etc., and edited by Arthur V. Macan, M. B., M. Ch., etc. With One Hundred and Twenty Illustrations. New York: D. Appleton & Co., 1888. Pp. xix–378.

Pictorial History of Ancient Pharmacy; with Sketches of Early Medical Practice. By Hermann Peters. Translated from the German, and revised, with Numerous Additions, by Dr. William Netter. Chicago: G. P. Engelhard & Co., 1889. Pp. xiv–5 to 184.

The Modern Treatment of Diseases of the Kidney. By Professor Dujardin-Beaumetz, Member of the Academy of Medicine, etc. Translated from the Fifth French Edition by E. P. Hurd, M. D., Newburyport, Mass. Detroit: George S. Davis, 1888. Pp. vi–169. [The "Physicians' Leisure Library."]

The Medical Bulletin Visiting List, or Physician's Call Record. Arranged upon an Original and Convenient Monthly and Weekly Plan for the Daily Recording of Professional Visits. Philadelphia: F. A. Davis, 1889.

The Codman Will Case. By Walter Channing, M. D., Brookline, Mass. (Read at the Annual Meeting of the Association of "Medical Superintendents of American Institutions for the Insane," held at Old Point Comfort, Va., May 15–18, 1888.)

Proceedings of the Connecticut Medical Society, 1888. Ninety-seventh Annual Convention, held at New Haven, May 23d and 24th. New Series. Vol. IV, No. 1. N. E. Wordin, M. D., Secretary, Bridgeport, Conn.

Revendication de la priorité de la découverte des vaccins du choléra asiatique faite sous les auspices de la Municipalité de Barcelone. Par le Dr. D. J. Ferrán. [À l'Académie des sciences de Paris.]

Twenty-ninth Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y. For the Year ending September 30, 1888.

# Reports on the Progress of Medicine.

## ANATOMY.

By MATTHIAS L. FOSTER, M. D.

**The Medio-tarsal Joint.**—Bishop ("Med. Chronicle," October, 1888) disputes the correctness of the view held by most surgical and anatomical writers regarding this joint. This view he states to be that this joint is composed of the calcaneo-cuboid joint, with the anterior portion of the astragalo-calcaneo scaphoid, and is an arthrodial joint, passing right across the foot, the movements in the astragalo-scaphoid portion being "somewhat freer" than in the calcaneo-cuboid, but with no other difference. The only writer on surgery who takes the same view as the author regarding this joint is, as far as he has been able to find, Mr. Hancock, in his lectures on the anatomy and surgery of the human foot. This view is that the medio-tarsal joint is not composed of two joints, but is one alone; is a modification of an enarthrodial or ball-and-socket joint, passes only partly across the foot, and is not transverse, the axis of its greatest diameter being antero-posterior. The calcaneo-cuboid is "merely a secondary joint, distinct in every way from the primary medio-tarsal, except in the fact that it is *nearly* in the plane of part of it." The head of the astragalus forms the ball, while the os calcis, scaphoid, cuboid, and cuneiform, with their ligaments, form the socket. This can be seen best in the foot of an infant before the original shape of the joints has been modified by pressure, but can be easily recognized in the foot of an adult. Restricted movements appear to be checked by the position and action of ligaments without rather than by any irregularity in the articular surfaces. The joint thus formed forms a segment of a circle; the calcaneo-cuboid does not. "Dorsally the astragalo-scaphoid forms a curve, convex anteriorly; the calcaneo-cuboid is marked by a straight line. On taking a section between dorsum and sole, the astragalo-scaphoid still forms a curve, convex forward, while the calcaneo-cuboid has an undulating line, curved, as a whole, in the reverse direction." The synovial membranes point to the association of the astragalo-scaphoid with the anterior astragalo-calcanean articular surfaces, and not with the calcaneo-cuboid. The bones which form the socket are firmly bound together by ligaments, while the astragalus is mainly held by the interosseous ligament beneath, which is so fixed as best to permit of the head in the socket, forming, in fact, the posterior segment of its capsule. The attachment of the ligaments and muscles about the joint, as well as the action of those muscles, is also called upon to show the correctness of the author's view. To the evidence he thus obtains from normal anatomy he adds that obtained by a consideration of the deformities which occur at this joint, the relations of the bones to each other in infants with these deformities, and in older persons after the distorted feet have been walked upon. If his view is accepted, talipes varus may be defined as a rotation upward and inward of the socket upon the head; talipes valgus, a rotation downward and outward; while flat-foot is a sub-dislocation of the joint itself.

**The Phrenic Nerve.**—Mr. Wagstaffe ("St. Thomas's Hosp. Reports," xvi) calls attention to the frequent branch from the phrenic nerve for the supply of the anterior scalenus muscle. He thinks this shows that the scaleni and the diaphragm are intimately associated in their action as respiratory muscles.

**The Rectum and Anus.**—Dr. Symington ("Jour. of Anat. and Physiol.," October, 1888) differs from the generally accepted view regarding the second and third parts of the rectum. He professes to show by frozen sections that the second part of the rectum does not change its direction at the tip of the coccyx, but continues to pass downward and forward an inch or more, lying upon a mass of muscular and fibrous tissue, which he terms the ano-coccygeal body. This body is of a quadrilateral form, measuring not far from an inch in length, depth, and thickness. It is bounded behind by the coccyx, in front by the anal canal, above by the rectum, and below by the skin. Laterally it is bounded by the fat of the ischio-rectal fossæ. It is formed mainly by the levatores ani and the internal and external sphincters. The anterior surface begins to bend downward and backward at the apex of the prostate gland, and at this point a pouch is formed which sometimes becomes very well developed as the result of overdistension of the rectum.

Regarding the anus, he does not accept as this the aperture situated opposite the junction of the skin and mucous membrane, but holds that it should mean the passage between the rectum and the exterior, which is surrounded by sphincters and has its walls in close contact except in defecation. This passage is about an inch in length, and includes what is frequently described as the third part of the rectum and anus. Its long axis is directed downward and backward at about a right angle with that of the second part of the rectum. Its lateral walls lie in close contact with one another, forming an antero-posterior slit. The lower part of the empty rectum has its anterior and posterior walls in contact.

The action of the levatores ani he thus describes: "When the fæces have been forced by vermicular contraction into the lower part of the rectum, they can assist the sphincters in preventing the passage of fæces through the anal canal. During defecation they will be relaxed along with the sphincters, the anal canal is opened, and the ano-coccygeal body pushed downward and backward. Toward the end of the act of defecation the levatores come into action in closing the anal canal and drawing the ano-coccygeal body upward and forward."

**The Topography of the Intestine.**—Schiefferdecker ("Arch. für Anat. u. Physiol.," "Revue des sciences méd.," July, 1888) reports a case of unusual situation of the duodenum, with a mesentery common to the lower part of the duodenum, the jejunum, the ileum, the cæcum, and the ascending and transverse colons. The author discusses the causes which perhaps led to this condition, which resembles the cases reported by Gruber, His, and Toldt.

**Adult Temporal Bones with Non-union of the Squamous and Petromastoid Portions.**—Dr. Symington exhibited to the Anatomical Society of Great Britain and Ireland two temporal bones which belonged to a disarticulated skull which he had purchased from a dealer. The bones were evidently those of an adult, and none of them presented any peculiarity except the two temporals. The condition of these was practically identical. Each was divided into two parts, one being formed of the squamous portion, the other of the remainder of the bone. These were movable upon one another, but could not be completely separated on account of the interlocking of the tegmen tympani with the squamous portion. The line of suture ran thus: "From the incisura parietalis (or notch between the upper convex border of the squamosa and the upper edge of the mastoid) it passed downward and forward to the anterior part of the mastoid process, then turned upward in the posterior wall of the external auditory meatus, immediately behind the tympanic bone, and went over the inner extremity of the roof of the meatus to the Glaserian fissure. At the outer part of this fissure it lay between the tympanic plate and the post-glenoid process, but more internally it was separated from the tympanic plate by a process of the pars petrosa. From the inner end of the Glaserian fissure the suture could be traced backward, on the inner surface, to the incisura parietalis."

The name "squamoso-mastoid" usually applied to this suture is misleading, as the suture passes across the mastoid, dividing it into two portions. Removal of the squamous portion exposed the tympanic cavity and the mastoid antrum, as this portion formed the outer wall of these spaces. The Eustachian tube lay a little internal to the receding angle between the petrous and squamous portions, and had its walls formed entirely of the petrous and tympanic parts.

**The Growth-rate of the Bones of the Lower Extremities.**—Mr. Walter Pye ("Jour. of Anat. and Physiol.," Oct., 1888) thus summarizes the results of his observations: In the second year the thighs grow at first at a rate of a little more than a seventh of an inch, and the legs a little less than a seventh of an inch a month; this gradually lessens until at the end of the year the rates are respectively a tenth and a little more than a twelfth of an inch. The monthly growth-rate goes on in diminishing rates until the eighth year, when it is an eighteenth and a twentieth of an inch.

He does not believe that during the period of development of femoral and tibial curvatures the growth-rate of the bones is, as a rule, diminished, except in cases of acute rickets with marasmus, although the child may not seem to grow taller, or may even seem to become shorter. This seems probable, because, if these patients are watched a year or two, we often find they are not permanently dwarfed, and that they will eventually show few signs of the deformity. This could hardly be if the growth were arrested or retarded in the second or third years of life—the usual time for rickets to appear, and the period of most rapid growth of the limbs. Actual measurement of limbs with curvatures, the real length of the limbs being taken, shows also that the actual growth of the leg and thigh is not less, on the average, than the growth of a straight limb at the same age.

**Persistent Hyaloid Artery.**—Tangeman ("Arch. of Ophthalmology," Sept., 1888) reports a case of persistence of the hyaloid artery. The fundus of the eye, with the entrance of the central artery, was distinctly visible. One large vessel passed forward through the vitreous to the region of the posterior surface of the lens, where it divided regularly into a network, and finally passed to the ciliary region, just posterior to the iris. The lens was clear, the pupil movable, but vision reduced to $\frac{20}{100}$. Sight had never been good in that eye. The vessels were not mere threads or fibers, but presented a distinctly red appearance. Very few similar cases have been recorded.

**The Origin and Relations of the Hypoglossal Nerve in the Medulla Oblongata.**—Koch ("Arch. f. mik. Anat."; "Revue des sciences méd.," July, 1888) arrives at the following results of his investigations according to the manner of Weigert:

There is no connection between the hypoglossal nerve and the olivary body. The true center of origin of the nerve is the center of Stilling. This is the more important, at least in man, because, as a general rule, there is an accessory center which plays an essential part, especially in the lower animals. The radical fibers do not cross each other between the center and the periphery. But there are transverse commissural fibers (fibræ commissurales nuclei) joining the center on one side to that on the other, and longitudinal commissural fibers (fibræ propriæ nuclei) which join different portions of the same center. The fibers which join the origin with the central gray masses cross in the rhaphe, place themselves on the dorsal side of the pyramid, and then take part in the formation of the corona radiata. The author has not been able to determine with certainty the relations of the center of the hypoglossal nerve with that of the pneumogastric and with the lateral columns.

**The Formation of the Cerebral Convolutions.**—Flesch ("Correspondenz-Blatt f. schweizer Aerzte"; "Revue des sci. méd.," July, 1888) advances the theory that the development of the systems of fibers in the white substance of the brain plays the essential rôle in the disposition of the principal fissures and convolutions, and that the appearance of secondary fissures results from the needs of nutrition, while the direction of the systems of fissures depends upon the relation of the brain to the cranium. An argument in behalf of this theory is the presence in the white substance of the spinal cord, in children and in the lower animals, of longitudinal furrows, in addition to the two principal fissures, which disappear with the progress of development of the pyramids, the columns of Goll, and the lateral columns.

**Congenital Bony Occlusion of the Anterior Nares.**—Dr. Potter ("Buffalo Med. and Surg. Jour.," September, 1888) reports a case of this rare abnormity. It occurred in a child two years and three months old, who had been noticed to have nasal stenosis on the left side since it was three weeks old. Inspection of the left nostril revealed a cup-shaped depression about three eighths of an inch within the orifice, with no opening into the interior of the nose. The obstruction was removed by means of a trocar which passed through five eighths of an inch of bony tissue, and then by a galvano-cautery knife. The right nostril was normal in every respect. Two similar cases in which both nostrils were occluded have been reported by Jarvis, and a unilateral postmortem case by Delstanche. So far as the writer knows, these are the only cases on record.

# Miscellany.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending January 4th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y.... | Dec. 29. | 1,548,628 | 772 | .. | .. | .. | .. | .. | .. | 4 | 51 | 40 | 21 | 19 |
| Philadelphia, Pa... | Dec. 28. | 1,016,758 | 367 | .. | .. | .. | .. | .. | .. | 6 | 14 | 13 | .. | 2 |
| Chicago, Ill........ | Dec. 22. | 800,000 | 227 | .. | .. | .. | .. | .. | .. | 3 | 4 | 29 | 1 | 1 |
| Chicago, Ill....... | Dec. 29. | 800,000 | 289 | .. | .. | .. | .. | .. | .. | 14 | 4 | 26 | 4 | 3 |
| Baltimore, Md..... | Dec 29. | 431,879 | 163 | .. | .. | .. | .. | .. | .. | 4 | .. | 3 | .. | .... |
| San Francisco, Cal. | Dec. 22. | 330,000 | 96 | .. | .. | 1 | .. | .. | .. | .. | 1 | 2 | .. | 2 |
| Cincinnati, Ohio... | Dec. 29. | 255,139 | 84 | .. | .. | .. | .. | .. | .. | 4 | .. | 2 | .. | .... |
| New Orleans, La... | Dec. 22. | 248,000 | 132 | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 | .. | 1 |
| Pittsburgh, Pa..... | Dec. 29. | 230,000 | 68 | .. | .. | .. | .. | .. | .. | 6 | .. | 1 | .. | ... |
| Cleveland, Ohio.... | Dec. 1. | 227,861 | 63 | .. | .. | .. | .. | .. | .. | 2 | 1 | 4 | .. | .... |
| Milwaukee, Wis ... | Dec. 29. | 195,000 | 58 | .. | .. | .. | .. | .. | .. | 1 | 4 | 3 | .. | .... |
| Kansas City, Mo... | Dec. 29. | 180,000 | 36 | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .... |
| Minneapolis, Minn. | Dec. 22. | 180,000 | 30 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newark, N. J...... | Dec. 18. | 178,000 | 74 | .. | .. | .. | .. | .. | .. | 4 | .. | 7 | .. | 1 |
| Newark, N. J...... | Dec. 25. | 178,000 | 65 | .. | .. | .. | .. | .. | .. | 1 | .. | 6 | .. | .... |
| St. Paul, Minn..... | Dec. 29. | 175,000 | 35 | .. | .. | .. | .. | .. | .. | 3 | .. | 2 | 1 | .... |
| Rochester, N. Y.... | Dec. 28. | 120,000 | 37 | .. | .. | .. | .. | .. | .. | 1 | .. | 5 | .. | ... |
| Detroit, Mich...... | Dec. 29. | 116,340 | 61 | .. | .. | .. | .. | .. | .. | .. | 1 | 7 | .. | ... |
| Richmond, Va..... | Dec. 24. | 100,000 | 35 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Denver, Col....... | Dec. 28. | 96,000 | 41 | .. | .. | .. | .. | .. | .. | 1 | .. | 3 | .. | .... |
| Toledo, Ohio ...... | Dec. 28. | 80,000 | 17 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | .... |
| Camden, N. J...... | Dec. 27. | 70,000 | 32 | .. | .. | .. | .. | .. | .. | 5 | .. | 1 | .. | .... |
| Nashville, Tenn.... | Dec. 29. | 65,153 | 16 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .... |
| Charleston, S. C.... | Dec. 22. | 60,145 | 39 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Charleston, S. C.... | Dec. 29. | 60,145 | 33 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Lynn, Mass........ | Dec. 29. | 50,000 | 15 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Manchester, N. H.. | Dec. 22. | 41,000 | 16 | .. | .. | .. | .. | .. | .. | 1 | .. | 5 | .. | ... |
| Portland, Me ...... | Dec. 29. | 40,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Galveston, Texas.. | Dec. 21. | 40,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| E. Saginaw, Mich.. | Dec. 29. | 33,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Burlington, Iowa.. | Dec. 28. | 30,166 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa........ | Dec. 22. | 30,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Auburn, N. Y...... | Dec. 29. | 26,000 | 7 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .... |
| Haverhill, Mass.... | Dec. 29. | 25,000 | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newport, R. I...... | Dec. 27. | 22,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newton, Mass..... | Dec. 29. | 21,105 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Keokuk, Ia........ | Dec. 29. | 16,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**The Health of Michigan.**—According to the State Board of Health's Report for the four weeks ending December 29, 1888, diphtheria was reported from fifteen places, scarlet fever from fifteen places, typhoid fever from thirty places, measles from ten places, and small-pox from six places.

**The Health of Kansas City, Mo.**—According to the Health Department's "Weekly Return" for the week ending January 5th, there were 30 deaths, including 1 from diphtheria, 1 from catarrhal fever, 1 from meningitis, 2 from pneumonia, and 1 from septicæmia.

**The New York Academy of Medicine.**—At the next meeting of the Section in Surgery, to be held on Monday, the 14th inst., Dr. L. B. Bangs will read a paper on "Spasmodic Stricture of the Urethra from Fissure of the Anus," and Dr. J. B. Bissell one on "Congenital Deformity of both Knees." The nomination and election of officers will also take place.

At the next meeting of the Section in Theory and Practice of Medicine, to be held on Tuesday, the 15th inst., Dr. W. H. Thomson will read a paper on "Auto-infection." An election of officers will take place at the same meeting.

**New Haven, Conn., Medical Association.**—At the annual meeting, held January 2d, officers were elected as follows: President, Dr. J. P. C. Foster; first vice-president, Dr. C. Purdy Lindsley; second vice-president, Dr. T. N. Russell; secretary and treasurer, Dr. Frank W. Wright; prudential committee, Dr. J. P. C. Foster, Dr. H. Fleischner, and Dr. F. W. Wright; finance committee, Dr. S. W. Williston and Dr. L. J. Sanford. The report of the secretary showed that the association had fifty-eight members—two fewer than one year ago—and that during the year 1888 twenty regular meetings had been held, with an average attendance of fourteen and one fourth members, three papers had been read, fifteen questions discussed, four pathological specimens presented, and fifty-two cases related. The association has a building-fund of about two thousand dollars.

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

THE NEW YORK MEDICAL JOURNAL, January 19, 1889.

## Original Communications.

# ON THE RELATION OF THE NASAL AND NEUROTIC FACTORS IN THE ÆTIOLOGY OF ASTHMA.*

By F. H. BOSWORTH, M. D.

The first question that arises in the discussion of this topic is, What is the true pathological lesion which gives rise to a paroxysm of asthma? From the earliest days of medical literature up to comparatively recent times we find all authorities accepting the theory that a paroxysm of asthma is due to a spasmodic contraction of the small circular muscular fibers which have been demonstrated by anatomists to exist in the bronchial tubes even down to their smallest ramifications. It seems rather curious that this theory should not long ago have been questioned. All observers very properly recognize asthma as a neurotic disease, and muscular spasm is undoubtedly a manifestation of the neurotic temperament, and apparently on this trivial ground the theory has been accepted. If the paroxysm is due to muscular spasm, why should the attack occur, in most instances, only at night? Why should it be affected by changes in temperature? Why should relief be obtained by high altitudes? Why should an attack be aggravated by a damp, bad atmosphere? There is everything in the repose of a quiet sleep which should protect one from an attack of asthma, and yet a paroxysm almost invariably comes on during the night. Changes in temperature are not usually recognized as having any marked effect on the nervous system, and yet a change in climate not infrequently precipitates a seizure of asthma. The sea-shore rather than mountainous districts is favorable to the toning up, as it is called, of the nervous system, and therefore asthmatics should suffer least at the sea-shore on this theory; yet the converse is true. Again, a paroxysm of asthma is ushered in suddenly, and during its persistence is characterized, it is true, by symptoms which are easily explained upon the theory of spasmodic muscular contraction of the circular fibers of the bronchial tubes, but the culmination of the attack is invariably marked by a more or less profuse sero-mucous exudation with cough and expectoration. This in no way can be harmonized with the spasmodic theory. I think, then, this view must be abandoned, as failing to explain the clinical history of asthma or the clinical history of a paroxysm. The first to call in question this spasmodic theory was Webber,† who demonstrated conclusively, to my mind, that an asthmatic paroxysm was due not to muscular spasm but to a paralysis of the vaso-motor nerves regulating the caliber of the blood-vessels of the bronchial mucous membrane. Under the influence of this vaso-motor paralysis coming on suddenly the blood-vessels in the bronchial membrane assume a sudden turgescence, under which the membrane becomes markedly swollen and congested, thereby encroaching notably upon the caliber of the bronchial tubes, constituting really the first or dry stage of inflammation, although differing from inflammation in that there is no tendency whatever to the escape of leucocytes or the development of the second inflammatory stage. The membrane is swollen, dry, and non-secretive. The result of this swollen condition is to interfere with not only the entrance of air to the air-cells, but also to its escape, giving rise thus to dyspnœa, both in inspiration and expiration. This condition, persisting for a certain length of time, somewhat precipitately gives way in connection with a more or less profuse exosmosis of serum, and the attack subsides. In this theory of Webber's we have one which very completely harmonizes not only with the clinical history of asthma, but with the clinical history of the paroxysm. Furthermore, it recognizes the view that the disease is essentially a neurosis. Medical science has not yet reached the stage where it can tell us in what neurosis consists, or what essential pathological lesion constitutes the nervous habit. That it is dependent on some structural change, I think, can not be questioned, as all so-called functional disorders are, the term "functional" being simply one which we use to cloak our ignorance of true pathological conditions. If, however, there is any morbid condition which constitutes the individual a neurasthenic, it is vaso-motor paresis involving some region of the body. Thus, in what we formerly called spinal irritation, it has been demonstrated that the backache and other symptoms characteristic of the disease are due to weakness of the vaso-motor control of the blood-vessels of certain portions of the spinal cord. In the same way, in the disease we call asthma, the essential pathological lesion consists in a weakness of vaso-motor control of the blood-vessels of the mucous membrane of the bronchial tubes. If, then, Webber's theory of spasmodic asthma be accepted, as I think it must be, we have gone far toward understanding why there should be a close ætiological relation between this affection and a diseased condition of the nasal mucous membrane.

In a former paper read before this association * in 1885 I discussed quite fully the true physiological function of the nasal mucous membrane, and the intimate connection between that and the bronchial membrane. I need, therefore, but briefly allude here to the views then advanced. The great and important function of the nasal mucous membrane is exosmosis of serum, by which the inspired current of air shall be so far saturated with moisture as that in passing through the bronchial tubes the mucous membrane lining them shall in no way be disturbed by the absorption of moisture by the respiratory current. Furthermore, this exosmotic function is regulated with an extreme degree of nicety through vaso-motor control in such a way that the serous exudation shall adapt itself to the various changes of temperature and humidity of the respired air. There is thus established a very close and exceedingly intimate connection between the membrane of the one region and that of the other. I think that much in the same way as the respiratory movements of the thoracic walls are regulated by the so-called *besoin de respirer*, and the demand for oxygen on the part of the blood controls the rate and rhythm of these movements closely and accurately, in just the same way the serous exosmosis from the nasal mucous membrane is regulated to adapt itself to the condition and demands of the bronchial membrane. The blood-supply of the two regions is thus brought into very close and intimate relation, and is virtually under the control of the same system of nerves, so far does this sympathy between the two regions go. Very close observation can easily demonstrate that a plethora of the blood-vessels of the nasal mucous membrane tends to develop a like plethora in the bronchial mucous membrane, and, furthermore, that, if we produce an anæmic condition of the turbinated tissues, an anæmic condition of the bronchial mucous membrane tends to follow. Given now still a third condition—that of vaso-motor paresis of the blood-vessels of the nasal membrane—the tendency is most marked to the development of a like weakness in the bronchial membrane. This is strikingly illustrated in cases of hay-asthma, which differs in no essential degree from ordinary spasmodic asthma except in the exciting cause of the paroxysm. The clinical history of every case of hay-asthma shows that the hay-fever attack precedes it invariably from one to ten days, the vaso-motor paresis of the blood-vessels of the nasal mucous membrane constituting hay-fever, being followed by the same pathological lesion in the bronchial mucous membrane, constituting an attack of asthma. This connection being established, it only remains to establish a connection between perennial asthma, or that form of asthma which is not connected with hay-fever, and the ordinary obstructive lesions in the nasal chambers. In a recent paper* I made an analysis of eighty of the cases of asthma taken from my own note-books which had been under treatment and in which the records were complete. This analysis demonstrated several points which are exceedingly pertinent to the subject under discussion. With reference to the existence of intranasal disease, such was found to be present in every case in sufficient degree to warrant the conclusion that it exercised a powerful causative influence in the production of the asthmatic attacks. This conclusion of course can easily be questioned, but I think the proof that my view was correct is shown in the fact that of these eighty cases forty-six were cured, twenty-six were improved, three unimproved, and five unknown, and this entirely as the result of treatment of the nasal disorder. The inference, I think furthermore, can safely be drawn that, if the attack of asthma is cured by curing the nasal disorder, the asthma was caused by the nasal disorder. Now, I do not mean to say that nasal disorder is the sole and only cause of every case of asthma. I think no one will dispute the powerful influence exerted by a neurotic habit, which all recognize as present in every case. Let us see what the conditions are which give rise to an asthmatic paroxysm. I think we shall find them covered by the three following heads:

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* Read before the American Climatological Association at its fifth annual meeting, September, 1888.

† "Tageblatt der 45te Naturversammlung zu Leipzig," p. 159, 1872.

* "Hay-fever and Asthma and Allied Affections," "New York Medical Journal," April 24, May 1, 1886.

1. The neurotic habit, as best shown in Salter's exhaustive work.

2. A diseased condition of the nasal mucous membrane, as shown by Daly,* this consisting simply of some obstructive lesion giving rise to a vaso-motor weakness of the bronchial mucous membrane through the intimate sympathy between the two regions already alluded to.

3. Some peculiar atmospheric condition which has never yet been determined, but which precipitates the paroxysm.

The first of these causes is recognized by all. On the second cause I have already written in the paper alluded to at sufficient length. I think the existence of the third cause must be accepted on clinical ground, for, as we know, the paroxysm is dependent on seasonal and diurnal conditions, probably atmospheric. Sir Andrew Clark,† in 1886, advanced the doctrine that hay-fever and asthma were virtually one and the same disease, a view which I had already advocated in my paper read before this association in May, 1885, the one disease being vaso-motor bronchitis, while hay-fever was a vaso-motor rhinitis; in the one case the hay-fever attack being produced, first, by a neurotic condition; second, a diseased condition of the nasal membrane; and third, the presence of pollen in the atmosphere. The atmospheric condition alluded to above as the third cause of the asthmatic paroxysm is closely analogous to the pollen-laden atmosphere which produces hay-fever; but whereas in one case the pollen theory has been absolutely demonstrated by Blackley's incomparable experiments,‡ the peculiar atmospheric conditions which give rise to asthma have not been determined. Of course it is not safe to make the statement that every individual of neurotic habit who suffers from obstructive lesion in the nose will necessarily have asthma, and yet I think the conviction would force itself strongly upon any one who was brought largely in connection with cases of this sort that, with these two conditions present, we have elements strikingly favorable to the development of spasmodic asthma, and no slight probability of such development occurring. There is one statement, I think, that should be made in this connection, and that is that I think many cases are overlooked in a mistaken diagnosis of bronchial congestion, slight cold, incipient bronchitis, etc. Asthma is a far more frequent disease, I think, than is generally recognized, and I am very confident that many cases in the earlier stages are overlooked and the diagnosis not made until a well-marked paroxysm sets in with its attendant suffering and distress. Going back to the original topic of discussion suggested in the programme as to what relation the neurotic bears to the nasal element in causing asthma, the conclusion I have drawn I hope is sufficiently clear. Both elements constitute powerful predisposing causes of the disease, and furthermore, from my point of view, a case of asthma in which they are both not present is exceedingly rare. But when we come to consider the comparative relation of the two, I think the importance of the nasal element must be conceded when we consider the question of successful treatment. And this, I think it must be conceded, is accomplished by the removal of any one of the three causative factors—the neurotic habit, the atmospheric condition, and the nasal disorder. Now, the treatment of asthma by general medication—or, in other words, the cure of this disease by therapeutic remedies directed to the control of the neurotic habit—does not present a brilliant chapter in medical literature. In other words, we possess no specific remedy for the disease. The nearest approach to this, I think, all will recognize in iodide of potassium, and yet, if we closely examine our note-books as to the permanently beneficial effects of this drug, our success has not been brilliant Much less can be said of the use of belladonna, zinc, arsenic, and other so-called nervines. As regards the removal of the atmospheric condition, this consists simply in a change of residence; this, I take it, we all recognize as a temporary measure—the attacks recurring as soon as the patient returns to his former unfavorable atmospheric surroundings.

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* "Asthma, with an Analysis of Eighty Cases," etc., "American Journal of the Medical Sciences," September, 1888.

* "Arch. of Laryngol.," iii, p. 157.

† "International Journal of the Medical Sciences," January, 1886.

‡ "Hay Fever," London, 1873.

Turning, however, to that system of treatment which is based on the cure of the nasal disorder, I think I need but refer again to the statistics of my own eighty cases already quoted, which, if correctly compiled—and I certainly made every endeavor that they should be recorded not only with accuracy but absolute candor—the question is sufficiently answered. Basing, then, the question of the comparative importance of these two factors in asthma on perhaps the most important element in the consideration of the disease —viz., its successful treatment—I think it may be fairly claimed that of the three elements which enter into the causation of asthma—namely, a neurotic habit, the nasal disease, and atmospheric conditions—the nasal disorder far outweighs in importance not only the nervous but all other elements of causation.

### *Remarks by*
### E. L. SHURLY, M.D.,
DETROIT.

In order to divest our subject of all ambiguity, let us establish our first standpoint upon the simple classification of *primary* or *essential asthma* and *secondary* or *symptomatic asthma.* For under one or other of these heads all cases, acute or chronic, may be classified which present that peculiar dyspnœa to which the name *properly* belongs. As we are aware, the ætiology of this peculiar dyspnœa has all along been enshrouded in mystery, especially of those cases which have appeared to show little if any structural change, and those which have been marked by a peculiar periodicity, known as hay-asthma; for the elucidation of its nature, therefore, various theories have been advanced, prominent among which are the *hœmic*, *inflammatory*, *Leyden's crystal*, *spasmodic*, *vaso-motor*, *peptic*, *nasal*, and other perhaps less significant ones.

It will be unnecessary, however, for the purposes of this discussion, to notice them historically and in detail; but I must call your attention particularly to the "spasmodic," "vaso-motor," and "nasal," the latter of which has been so ably presented to the profession of late by Dr. Daly, Dr. Roe, Dr. Bosworth, Dr. Ingals, Dr. Mackenzie, Dr. Sajous, and others.

Not fully convinced that the more recent and now prevalent ideas regarding the nature of the disease were rationally consistent with clinical observation, I instituted in the physiological laboratory of the Detroit College of Medicine a series of experiments upon dogs, and elicited the following information, according to the observation of myself and those who were present: Carefully dissecting out and isolating a portion of the pneumogastric nerve in the neck, a finely pointed electrode attached to a faradaic battery was applied, with the result of producing marked contractions of the trachea, bronchial tubes, and diaphragm; the contractions were both circular and longitudinal, effecting an obvious shortening of the air-passages; in fact, always resulting in a squeezing, so to speak, of the pulmonary organs from below upward. With the fingers could be *felt*, during the time of shortening, little rugæ, especially along the trachea. Upon laying open the trachea down to the bronchi, we could *see* the mucous membrane assuming small folds not unlike the *valvulæ conniventes.*

For a while after the application of the stimulus, respiration seemed to become almost entirely suspended, but soon Nature, operating against this continued danger, would succeed in relaxing the diaphragm, a little at first, and then the bronchial muscles, until a slight inspiratory effort took place. And so on, despite the great contractile opposition maintained, a feeble but sufficient respiration was carried on, thus illustrating as plainly as could be the phenomena of an asthmatic paroxysm. With a feebler current of stimulation, the action was more plainly visible.

These experiments were continued for about half an hour upon each animal, with the same physical effect in each case, and without producing any *sensible engorgement* of the mucous membrane of the *bronchial* or *nasal passages*, or any other result indicating vaso-motor paresis.

These experiments illustrated as plainly as could be the respiratory phenomena of ordinary asthma, and I may state, however, that the same effects did not follow the stimulation of the carotid plexus, although our experiments in this particular were not satisfactorily made.

The next series of experiments consisted of exposing one of the *spheno-palatine ganglia*, which in a dog is difficult to do; in fact, I should not have succeeded but for the able assistance of our demonstrator of anatomy, Dr. J. B. Wright, who is also a graduate of a veterinary college. This ganglion (which, it will be remembered, presides over the innervation of the posterior portion of the nasal passages) was stimulated as in the other experiments, very carefully avoiding contact with muscular tissue, with the effect of producing contraction of the nasal, palatine, and upper constrictor muscles—in short, producing the phenomenon of sneezing, but no contraction of the bronchioles at all. Under a very powerful stimulus the extrinsic muscles of the larynx would occasionally twitch. Mechanical irritation, such as pinching of the ganglion, produced only slight contractions of the palatine and nasal muscles.

Following these experiments, we quickly opened the nasal cavities and found only *very slight*, if any, engorgement, no swelling of the turbinated bodies, and no excessive secretion. I am aware that a few experiments of this sort have been made in Europe and results published contrary to those obtained by me.

With other dogs I applied to the nasal mucous membrane, besides electricity, powdered sanguinaria, or an abundance of hay-seed containing rag-weed probably, two of them being kept in an atmosphere containing more or less hay-seed for ten days, but without the induction of asthma, although in one dog there was an abundant nasal secretion. I also injected one animal, beneath the mucous membrane of the inferior turbinated bone, with an eighth of a grain of pilocarpine nitrate, but without the effect of producing anything save a slight local irritation and some constitutional debility.

It is therefore impossible for me, in the light of physiological experiments, which I think were conducted carefully, to discard the so-called "spasmodic" theory for the more recent one of *vaso-motor spasm* and consequent *blood engorgement.*

If the theory of vaso-motor paresis (advanced by Webber and advocated by Dr. Bosworth, in a recent able article upon asthma in the "American Journal of the Medical Sciences") accounts for the paroxysm of asthma, then, under the influence of an excitant producing such a condition, we ought to find at least considerable engorgement of the vessels within half an hour; whereas, in the experiments stated above, no such result followed.

Dr. Bosworth also objects to the term "reflex" in this connection, believing the term constitutes a mantle for our ignorance. While it is undoubtedly true that the term "reflex" is often misappropriated, its use is perfectly justifiable in its application to the disease under consideration, because we seldom know exactly what the *modus operandi* of the cause or causes leading to the paroxysm is.

However, assuming—because generally admitted even by Dr. Bosworth as a fact—the existence of a neurotic predisposition or habit (hereditary or acquired) underlying all cases of asthma, it will be unnecessary to discuss further whether it be a reflex or direct irritation that precipitates the paroxysm, only that asthma, properly speaking, is essentially a *spasmodic* disturbance of the bronchial nervo-musculature, independent in part of vaso-motor disturbance, and this, it seems to me, can be fully demonstrated.

Coming to the question of *intranasal disease* as the foundation of asthma and also hay-fever, I must take issue with the radical position held by Dr. Bosworth and others. In the first place, I must object to the wholesale condemnation of the noses of asthmatics which seems to prevail, for I believe with Mackenzie, of London, that there is no invariable standard of normality for nasal chambers any more than for arms, legs, eyes, or ears. What may seem a normal condition in one individual may be abnormal in another. When the nasal passages are open enough to admit of easy respiration through them, vascular enough to warm the inspired air, and bathed with secretion or moisture in proper quantity and quality for such a physiological condition as to give the owner no thought or consciousness of possessing a nose, such passages are practically healthy, whether there be slight deflection of the septum or not, or whether a turbinated body presents the orthodox curves, position, and size or not.

I have been examining nasal passages more or less for the past eighteen years, and I can not say now that I have seen many typically symmetrical examples of Nature's art in this direction; yet I should be amazed beyond recovery to become possessed of the conviction that in all this time I had seen but few healthy nasal passages, and really *none* possessed by asthmatics. Within the past two or three years I have taken pains to examine the nasal passages of many asthmatics, both in hospital and private practice, without observing even a majority with what I regard as diseased conditions of the nasal passages, while the "sensitive area" promulgated by my friend Dr. J. N. Mackenzie has been also wanting in most of those coming under my observation. On this point I am convinced that its occasional occurrence is due to the fact that the nasal mucous membrane of some persons is more sensitive than others either throughout or in part—analogous to similar conditions of mucous membranes of other parts, such as the rectum, vagina, and urethra; that it is generally met with in the noses of asthmatics or other persons is contrary to my experience.

That *intranasal disease* is a factor in the production, or rather prolongation, of some cases of asthma must be admitted, but that it is often the foundation is contrary to my observation.

I am sure that daily experience overwhelmingly shows a large number of cases of intranasal disease, such as deflections, neoplasms, and hypertrophies, in persons of neurotic habit, with a very small proportion of cases of associated asthma, and the same is nearly true regarding "hay-asthma"; although we must not forget that "hay-fever" and "essential asthma" are not one and the same disease, for the one is a peculiar constitutional disturbance characterized by a specific rhinitis allied to influenza, while the other is a neurotic disease of the respiratory apparatus, non-inflammatory ordinarily—at least at first—and not accompanied by coryza or rhinitis necessarily. The two diseases are undoubtedly allied, and sometimes coexist; there may be hay-fever with or without asthma, and asthma independent of rhinitis or hay-fever.

Now, if asthma depended upon intranasal disease almost wholly, we should find: 1. Nearly all cases of asthma presenting intranasal structural disease, and accompanied by rhinitis at first or during its duration. 2. We should observe asthma in a large majority of the cases of intranasal structural disease or neoplasms. And 3. We should be able to produce asthma by experimental or accidental irritation of the nasal mucous membrane at any season in individuals possessing the "peculiar neurotic habit."

Lastly, regarding the local treatment of nasal cavities with the *galvano-cautery*, other *caustics*, and *surgical manipulation* for the relief of asthma, I would say that although the valuable statistical article of Dr. Bosworth shows such really good results, I would, however, respectfully suggest that the real therapeutic value of such measures probably lies more in the therapeutic principle of *counter-irritation* than in the destruction of the causal nidus, for the following reasons: 1. Blistering and other counter-irritation over the neck and chest (though an old remedy) is one which often has given as good results as the galvano-cautery, especially in my hands; this and other seasons I have treated some cases of hay-fever in this way, and also by the application of tincture of iodine (as suggested by Dr. Faulkner, of Alleghany City), with even better results than I have had with the galvano-cautery or saw. 2. The idea of destroying all of the peripheral nerve-ends without wide and absurd destruction of intranasal tissue seems impossible, owing to the anatomical structure of the parts; for how else can be reached the remote and hidden mucous surfaces of the nasal passages, which contain by far more of the sensory filaments than the parts which can be brought in view? I must confess that the results obtained by cauterization of the mucous surface have not been permanent in my hands except in two or three instances, which may be possibly due to lack of skill or perseverance. At the same time, when there are neoplasms or hypertrophies which really obstruct the nasal passages, the galvano-cautery or some such means ought to be employed.

### *Remarks by*

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I MAY say, with no concealment of pride, that it has given me great pleasure to view the mass of valuable and pertinent work all over the civilized world that has followed my rather unpretentious record of observations, read before the Congress of the American Laryngological Association in New York in 1881, upon the subject of hay-asthma in its relation to nasal and neurotic factors. That paper seems to have marked a most important epoch in the study of this subject, for shortly thereafter followed Hack's valuable work, and J. N. Mackenzie, Roe, Bosworth, Sajous, Allen, and a host of others brought forward their experience—all of them more or less verifying the observations I had published, and many of them enlarging and strengthening the views I there promulgated. Some of them, however, possibly went further than I was then prepared to go. But I desire it understood that I am now prepared to go further than I was when I made my original observations. And I am also, as I was then, prepared to concede to others that they are looking into the same truth from a different standpoint, and that I believe they are right, like myself, so far as I go into the complicated and intricate question of asthma and the nasal factors thereof.

Now as to Dr. Shurly's experiments. I have always valued experimental research as being entertaining and instructive. It is, however, subject to being misinterpreted by us, and if so, then it is misleading to a serious degree. I know it has the air of precision about it to look at results that have been arrived at after a careful summing up of observations made upon vivisections of the lower animals; but, as a matter of fact, the suddenly produced objective results on the lower animals are pathologically a vastly different thing from the subjective results of years of complicated diseased action in some of our cases of asthma in the human being. In the latter the nerve factor may be that which is most manifest. But is it *the* factor or the only one through which the medical man must view the pathological process of asthma? I think it ought not to be considered the only one.

Now, gentlemen, we have much yet to learn upon this subject, and I do not believe any of us have ever told the whole truth about asthma, or hay-asthma either. I apprehend the truth is so big that none of us small mortals can take it all in, even in one of our most comprehensive views. We are, to a certain degree, like the three blind men in the wise fable of Tolstoi. The blind men came to see the elephant after their manner. They felt of the elephant, received their impressions of what it was like, and went away, each with a very definite notion of the appearance of an elephant. But their ideas differed widely. "An elephant," said one of the blind men, "is a kind of whip." He had felt of the tail. "No," said another blind man, "an elephant is a kind of horn." He had felt of the tusks. "No, no," cried another, "an elephant is a great round creature like a ball, and covered with rough skin." He had felt of the side. Each man had touched one little part of the big elephant, and thought that part was the whole. Each man was right so far as he went, and from his point of view; he began to be wrong the moment he insisted he had gone as far as anybody could go, and knew the whole of it. He began to be not only wrong but intolerant the moment he declared that his fellow, because he differed from him, must in the nature of things be either deceiving or deceived. These men forgot, or did not know, that an elephant was big. That is what was the matter with them. Is it not also the matter with us?

Now, gentlemen, do we not often forget that our truths are big and not easily reached? Do we not oftener spend valuable time trying to prove the fallacy of what another has honestly and correctly observed upon the subject of a big truth rather than strike out into a new line of observation and add more that is authentic regarding the same truth? I think we too often do this.

I am reminded of the occasion of the first day's meeting in the throat section of the great International Medical Congress at Copenhagen, in 1884, when much valuable time was taken up in the discussion of the relative superiority of inhalations, sprays, and insufflation of powder in diseases of the respiratory passages. The discussion was almost entirely in German, and by Germans, and the burden of it all was the Teutonic enthusiasm with which each champion of either spray, powder, or gas sought to impress the others with its superiority and the utter uselessness of the other measure, until some of us were nauseated into the belief that we were attending a convocation of Teutonic medical men with one idea, and not a great international congress in which a dozen intelligent and civilized nations were ably represented. These latter remarks refer to the first day's proceedings only, and I am pleased to say the work assumed an international complexion the next day, where every nation's representatives alike had an opportunity to discuss any part of such truths as he was familiar with.

Men get hold of one little corner of a great truth and say, This is the truth. And they listen to another who has his hand on the same truth, but on another side, and answers, "That is error." We are apt, therefore, to allege more for our observations than they are really worth, and indeed consistent and moderate is the man who alleges only enough. In this connection I desire to say that what allegations were made by me, and what opinions and observations expressed upon that form of asthma known as hay-asthma eight years ago, in a paper entitled "Hay-asthma and Naso-pharyngeal Catarrh," I believe now that I then took one of the blind men's views of a great truth, and told my story of the question as I saw it. But I have since examined it again and again, and observed more and more, and, with the accumulated experience of eight years and careful observation, I must say that the questions I then formulated are still more strongly tenable in the light of accumulated practical experience—viz., that there is a certain proportion of cases of hay-asthma and also of asthma, and I am convinced the proportion is a growing one, that can be cured by putting the naso-pharynx in a healthful condition.

This, gentlemen, is the corner of the great truth which my hand touches. But I can not and will not say that my fellow, who appears to differ with me, has not also his hand on another part of the same truth.

*Remarks by*

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WHILE agreeing with Dr. Bosworth that many cases of asthma have their origin in irritation of the upper air-passages, I believe there are also many cases having a different origin. There is no single locality which is always the seat of the reflex action. I have a patient, for example, who can bring on an attack at any time by imprudence in diet. A lobster-salad will cause a paroxysm with unvarying certainty. Here the gastric branch of the vagus is at fault. Such cases are by no means rare, and the term dyspeptic asthma is an entirely legitimate one. I am sorry that, in his physiological experiments, Dr. Shurly did not try the effect of irritation applied to the gastric nerve.

I can not agree with Dr. Bosworth that vaso-motor paresis is the main element in asthma. The very rapidity with which the dyspnœa follows irritation of the nasal membrane in his experiments speaks against the theory of tumefaction of the pulmonary mucous membrane resulting from vaso-motor paresis as the cause of the obstruction. Such tumefaction would require considerable time for its production, whereas the wheezing follows instantly upon touching the irritable nasal surface, thus indicating spasm of the muscular fibers encircling the air-tubes.

Still, I do believe that there is a form of asthma in which vaso-motor disturbance plays a prominent part, not alone by causing tumefaction of the pulmonary membrane, but also by retarding the flow of blood through the capillaries. Dyspnœa results as surely from retardation of blood in the capillaries as from lack of air in the alveoli. Many years ago I observed that, while most patients with asthma were immediately relieved by the inhalation of oxygen, some were not at all benefited. This, I think, may be explained by supposing that in the latter cases the trouble is chiefly in the blood-vessels and not in the air-tubes; that the patient is suffering not from a lack of oxygen, but from a lack of blood to carry the oxygen to the tissues. The positive clinical evidence in favor of the existence of the vaso-motor function in the lungs, such as the occurrence of sudden congestion, etc., appears to me conclusive, notwithstanding the negative results of anatomical and physiological researches.

With regard to nasal irritation, I believe that abnormal contact of surfaces within the nose, especially if the contact is accompanied by pressure, will often produce results far beyond what would naturally be expected. For example, I have again and again seen obstinate catarrh immediately relieved by removing the pressure of an hypertrophied turbinated body upon the septum, and I do not for a moment doubt that many cases of asthma can be cured in like manner. I admit this the more readily because I was formerly of a different opinion. But I still think we are going much too far when we seek to establish it as a rule that asthma is to be cured by operative procedures within the nasal cavities. The problem is too complex to admit of such a simple solution.

# OUR PRESENT KNOWLEDGE CONCERNING THE ÆTIOLOGY OF TYPHOID FEVER.*

BY AUGUSTUS CAILLÉ, M. D.,

VISITING PHYSICIAN TO THE GERMAN HOSPITAL AND TO THE CHILDREN'S DEPARTMENT OF THE GERMAN DISPENSARY.

GENTLEMEN: We have assembled here this evening for the purpose of discussing the ætiology and treatment of a disease which, owing to its general prevalence and grave importance, should be thoroughly understood by the practitioner in medicine. Before I endeavor to present a clear picture of our recent views and knowledge concerning typhoid fever I would intimate that medical nomenclature has not kept pace with our better understanding as to the causation of disease, and in consequence we occasionally miss in the written and oral communications of medical men that sharp distinction existing between a specific typhoid fever and a typhoid symptom.

We all know that the expression "typhoid" (*τύφον*) indicates drowsiness and cloudiness of the sensorium, and in earlier days was applied to almost all febrile disorders having such typhoid symptoms, so that at the beginning of the present century we find the terms typhoid fever, typhus fever, relapsing and remittent fever, used almost synonymously on account of their common symptom. About the year 1830 Jenner in England and Griesinger in Germany pronounced typhus and typhoid fever as two distinct disorders, the former alone being directly contagious.

This opinion, expressed so many years ago, holds good at the present time, but we know in addition that the typhoid stage or symptom which we frequently observe in acute febrile disorders—as in pneumonia, diphtheria, scarlatina, puerperal fever, or peritonitis—is probably due to a persistent high temperature which accompanies such diseases, and has no connection with typhus or typhoid fever.

If we bear this in mind there will be no necessity for coining such misleading terms as typho-malarial fever, etc.

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* Read before the Medico-chirurgical Society of German Physicians, June 4, 1888.

*Definition of Typhoid Fever and its Specific Poison.*—For the purpose of brevity we may omit the usual historical retrospect and take up the study of typhoid fever from the time of its recognition as a general infectious disease, defining it as a specific endemic disorder not directly contagious, the poison of which is present in the excrement of the person afflicted. Anatomically, we find swelling and necrosis of certain glandular structures within the intestines. Clinically, we notice prolonged fever, continuous in the acme and remittent in the beginning and the end, with a tendency toward heart failure.

This is not an exact definition, but it will suffice for the purpose of our discussion. The question now presents itself: Are the above-mentioned symptoms occasioned by a purely chemical poison, or is the exciting cause of the infection of parasitic origin?

Is it a chemical poison? No poison, organic or inorganic, fixed or volatile, can produce the above-mentioned (complex) symptoms, or occasions or is accompanied by a more or less typical fever curve of three to five weeks' duration. No mineral poison, none of the numerous poisonous vegetable alkaloids, neither cyanides nor any other poisonous compound obtained by synthesis, can produce symptoms similar to those of typhoid fever. All the well-known poisons most rapidly destroy life when taken in sufficient quantity, and occasion little or no disturbance if taken in diminutive doses. A propagation of a purely chemical poison within the body, accompanied by characteristic symptoms extending over a long period of time, is an impossibility. As long as the normal functions of the tissues are not materially interrupted, elimination follows; otherwise death speedily results.

Even the isolated ptomaines do not, to my knowledge, provoke prolonged and typical disease; they react upon the animal economy precisely in the manner of organic poisons in general. The same is true of the toxic gases; neither marsh-gas nor sewer-gas produces typhoid fever.

We might conceive of a volatile cause of typhoid fever by assuming the body to be exposed to its influence during the whole period of sickness. But such an assumption is rejected at once if we reflect that a patient after infection fails to escape the disease by withdrawing from the place of infection. Even were you to hasten him from New York to the North Pole, the disease would surely run its course. I know of a woman who was taken sick with typhoid fever in a small town near Wiesbaden, Germany, a few days prior to her departure for New York. She was sick on board the steamer, and remained sick for three weeks after the completion of her journey; and I suppose almost every physician is familiar with cases of that nature.

Accordingly, we may say that the poison of typhoid fever is not a chemical poison, for, *a priori*, its reproductive ability both within the system and external to the body, its intimate connection with putrefaction, the typical course of the disease—all these are indicative of its parasitic origin. The *modus operandi* may be expressed as follows: A specific parasite has the power of inducing putrefaction in a tissue wherein it is lodged and thereby produces a ptomaine. This organic poison is absorbed, produces symptoms of disease, and is finally eliminated; the system is therefore under the influence of a poison as long as its production within the body lasts. After several weeks the activity of the specific parasite reaches its limit and the production of the ptomaine ceases; thus we have an illustration of an acute infectious disease. That the vitality of a parasitic organism reaches a natural limitation is a palpable conception, and it has been suggested that many of the micro-organisms may limit their own activity by the high body temperature which they induce. This may be quite true in many instances, but there are exceptions, for we know that the *Bacillus tuberculosis* thrives admirably notwithstanding the high and continuous fever which many phthisical subjects have.

What other proofs have we that the poison of typhoid fever is a *contagium vivum?*

The discovery of the specific bacillus is credited to Eberth and Koch. In 1880 Eberth described a species of bacilli present in recent cases of typhoid fever in non-ulcerated, enlarged intestinal follicles—Peyer's patches—spleen, liver, kidneys, lungs, intestinal lymphatics, and the central nervous system. The cultivation gave the best results in potato medium, and, according to Gaffky ("Mittheilungen aus dem Gesundheitsamt," Band ii), the potato cultivation of this bacillus is so characteristic that it may readily be distinguished from others by the naked eye, and is looked upon as a means of diagnosis. E. Fränkel and Simmonds sought to prove the specific pathological nature of the "typhoid" bacillus by animal inoculation. The later investigations of Beumer, Peiper, and Serotinin ("Zeitschrift f. Hygiene," Bd. i–iii) show that the evidence of inoculation is not absolutely conclusive, but still so satisfactory that these authors recommend prophylactic vaccination. The bacillus described by Eberth has occasionally been found in contaminated drinking-water and in milk; however, it is thought that such milk had been watered.

V. C. Vaughan, M. D., and F. G. Novy, M. S. ("Med. News," January 28, 1888), profess to have been the first to discover the bacillus of Eberth in this country, in an article entitled "Experimental Studies on the Causation of Typhoid Fever." A sick immigrant introduced the disease into Iron Mountain, Michigan. From August to December statistics show three hundred and fifty cases with 10 per cent. mortality. The presence of the bacillus in the drinking-water was demonstrated by the potato cultivation, and it was also found in the tissues of some of the patients.

We may therefore state that the evidence as to the parasitic origin of typhoid fever is conclusive.

Next in importance to the recognition of a poison, its source is of practical value, for if we know from what direction danger threatens we have a rational defense in prophylaxis.

If we at any time admit the existence of a specific parasite we must also admit its continual propagation, and it is not at all probable that the typhoid-fever poison originates spontaneously in putrescible matter, but that it finds therein a suitable vehicle for its growth and multiplication. In other words, drinking-water contaminated by drainage from a cess-pool will not cause typhoid fever unless the specific germ is contained therein.

Experience has taught us that the disease under consideration is not directly contagious, and we know, on the other hand, that the specific poison is contained in the dejections of the sick; therefore we may state, without fear of contradiction, that the *carriers of the contagion are chiefly air, water, food, clothing*, and, as I personally believe, the *clinical thermometer* in hospital wards.

It is hardly necessary to cite instances of infection by means of contaminated air (sewer-gas), the latter being simply a vehicle for the typhoid-fever germ.

Murchison has reported how a number of children were taken sick from breathing the air of a school-room contaminated by means of an open cess-pool. Nearly all the children were attacked, and those sitting nearest the closet were taken sick first. A positive proof of infection by means of sewer-gas has lately been reported. Some time ago several convicts were stricken with typhoid fever in one of the wards of the Michigan State Prison at Jackson. The Board of Health was called upon to investigate the matter under the supervision of Professor Vaughan, director of the Michigan Laboratory of Hygiene. The milk and the water supply were found pure. A defective sewer was found which had not been in use, but which communicated with a newly constructed sewer under the hospital ward. The air of the old soil-pipe was analyzed and the typhoid-fever germ found, and distinguished by the potato cultivation ("Sanitary News," February 8, 1888).

When air or sewer-gas is the medium of infection, absorption of the poison need not necessarily take place through the lungs. In all likelihood the germs are caught in the secretions from the naso-pharyngeal space and are swallowed.

Infection by means of drinking-water is a well-established fact and need not be dwelt upon. Occasional immunity is noticeable, but sooner or later finds its explanation. Dr. Underwood, customs medical officer at Kinkiang, China, noticed marked immunity from the disease among the natives in his district, notwithstanding the frequency of typhoid fever among the Europeans located there. He explains this by the fact that the Chinese drink no water while tea is at hand.

According to Billings and Prudden, impure ice may be the means of infection ("The Medical Record," April 2, 1887). Dr. Prudden states in his article that there are a considerable number of cases of typhoid fever in which the most painstaking examination of the sanitary surroundings of the victims and their personal contacts fails entirely to account for the occurrence of the disease. Some of these isolated cases of typhoid fever, whose origin is otherwise unaccountable, may well be due to the ingestion of bacilli from sewage-contaminated ice.

*Contagion by Clothing.*—The Berlin correspondent of the "Medical Press," March 28, 1888, reports a persistent epidemic that played havoc in a garrison artillery barracks from 1873 to 1885. A case of typhoid fever was imported in 1873, and from that date to the close of the epidemic 146 cases occurred. Every possible source of disease was looked into and everything kept in the best possible condition, but the disease baffled all inquiry. The closing of the barracks finally came up for consideration, but previously suspicion fell upon the bed-linen and clothing, because the vast majority of cases were furnished by the men of one battery alone. On close investigation, it was found that the linings of the trousers were, almost without exception, soiled by dry fæcal matter. The clothing was submitted to renewed careful treatment by means of chlorine and dry heat, from which time (November 18, 1885) no more cases of disease occurred.

Infection by means of the clinical thermometer in hospital wards, and through nurses who attend a typhoid-fever patient at one moment and presently prepare ice-water without previous disinfection of their hands, is a sure thing, in my opinion, and the possibility of its occurrence should be borne in mind and avoided by all means.

*Local and Individual Disposition.*—We have all read, or attempted to read and digest, the somewhat lengthy treatises on ground-water, the height of which is calculated according to the depth of well-water. As a matter of fact, ground-water stands in a certain relation to health, and Pettenkofer has found that typhoid fever is prevalent with low ground-water. The investigations of B. Latham, C. E. ("Popular Science Monthly," December, 1887), extend over a period of eleven years, and show for England the prevalence of typhoid fever *after* low ground-water.

On general principles, I should be inclined to hold that contaminated well-water would contain proportionately more germs if the well were nearly dry than if it were quite full.

Finally, it should be borne in mind that high temperature favors the development of typhoid fever.

*Individual Disposition.*—Concerning individual disposition little is known. Persons between fifteen and thirty years of age are most liable to be taken sick; the disease attacks more men than women, more robust than weakly individuals. It is the exception that one person is attacked more than once. I can, however, recall several such cases. Occasionally entire families are stricken with typhoid fever. In 1878, of a family of eight persons living at 113 Eldridge Street, all were attacked within four months, and all fortunately recovered.

The following cases are also of interest:

In 1878 I was called to attend a cigar manufacturer, living with his second wife and six sons in East Fourth Street, New York. About a year previous his first wife had died of typhoid fever in the same house. One of the sons was sick with typhoid fever and got well after severe illness. Six months later a second son became sick and died. Subsequently the family removed to a flat in St. Mark's Place, and in October, 1887, the whole family except the stepmother contracted typhoid fever, and all recovered; thus one of the sons had the disease twice. A sister of the head of this family, residing at Sing Sing, reports that within a few years she and two children have been sick with typhoid fever. Under such circumstances one may well speak of individual disposition, whatever that may be.

The diagnostic value of the "typhoid" bacillus deserves a passing notice.

Microscopic examination is insufficient for the purpose of diagnosis, the potato cultivation being necessary under all circumstances. Typhoid-fever stools should not be used for obtaining cultivations, as they contain many varieties of bacilli. The examination of peripheral blood usually yields a negative result. Lucatello has removed blood from the spleen with a Pravaz syringe and obtained cultivations in ten instances out of thirteen. The blood of "roseola" patches gives a positive result in 50 per cent. of cases. A diagnostic bacteriological examination consumes several days, and is therefore of little value as a preliminary procedure, because the clinical diagnosis is usually made in about the same time.

Such an examination may be of importance, however, in distinguishing between typhus fever, typhoid fever, acute miliary tuberculosis, and other forms of disease accompanied by a constantly high temperature. The precise relation of typhoid fever to those forms of disease which are similar but of a very mild type has not as yet been cleared up.

In conclusion, I would add a few words on the prophylaxis of typhoid fever.

Dr. Vilchur, of St. Petersburg ("Lancet," January 14, 1888), has found by experiment that boiling water kills the "typhoid" bacillus, and recommends that the stools of patients be treated with boiling water. Such a method is impossible in private practice for obvious reasons; nevertheless, the physician should insist that the stools be treated by some cheap disinfectant, also the soiled wash.

No sleeping apartment should have a wash-basin which communicates with drain-pipes and sewers. The occasional use of germicide solutions in waste-pipes is no safeguard against infection; it is far more advisable to place a large piece of crude potash into the sinks every week or two; the fatty and sticky coating on the interior of waste-pipes is thus dissolved and loosened up and is carried away by a flush of water. Such a procedure would work good results, especially in tenement-houses.

According to our present experience, infection through drinking-water can be avoided by boiling the water before use.

In the tenement-house districts of New York city typhoid fever would have fewer victims if the physician who attends a case would make it his business to ascertain that printed directions distributed by the Board of Health to prevent the spreading of contagious disease were actually read, understood, and obeyed.

Many people are willing to carry out sanitary instructions if they are shown how; others neglect to do so because they do not quite understand written instruction, and no one has a better opportunity to make such matters clear than a conscientious attending physician.

Clinical thermometers after use should be cleansed with a pledget of cotton and bichloride-of-mercury solution.

To what extent the physician may be able to counteract the intensity of the poison, limit the duration of the disease, and keep the body functions as near as possible to the normal standard during a period of disturbance, is a matter of therapeutics.

## SOME TENOTOMIES FOR THE CORRECTION OF HETEROPHORIA,

*WITH RESULTS.*

BY DAVID WEBSTER, M. D.

(*Concluded from page 37.*)

CASE XX.—A. J. C., aged twenty, single, artist, came under observation May 17, 1887. His eyes broke down in January and he consulted Dr. Miller, of Providence, who had him under treatment for two months, gave him glasses, and advised tenotomy of an internus.

My examination showed:

R. V. = $\frac{20}{15}$; Hm. $\frac{1}{48}$. L. V. = $\frac{20}{15}$; Hm. $\frac{1}{48}$.

No hyperphoria, esophoria 20°, in acc. 20°, abduction 5°, adduction 30°, sursd. R. 2°, L. 2°

Ophth.: No lesion. After trying both eyes together I ordered + 1·50 D., prism 2½°, base out.

*May 23d.*—No relief from the glasses. Tenotomy of right internus.

*June 6th.*—Esophoria 8°, in acc. 12°, abduction 7°.

*8th.*—Under atropine.

R. V. = $\frac{20}{40}$; $\frac{20}{20}$ with + $\frac{1}{22}$. L. V. = $\frac{20}{70}$; $\frac{20}{15}$ with + $\frac{1}{36}$, s. + $\frac{1}{60}$ c. ax. 90°.

*July 18th.*—Esophoria 4°.

*27th.*—Esophoria, with refraction corrected 4°; without, 5°.

*March, 1888.*—Esophoria 4°, abduction 7°, adduction 36°. The patient says he has been greatly relieved by the operation and the prisms, but that he can not do his work without his glasses.

*August 10th.*—He worked at his art from January 1st to June 1st, but not more than three hours a day. His eyes broke down again in June.

*11th.*—Esophoria 6° to 18°, in acc. 14°, abduction 5°. Tenotomy of left internus, leaving orthophoria, and abduction 10°.

*12th.*—Orthophoria, abduction 10°, sursd. R. 2°, L. 2°, with correction of the hypermetropia. Without correction, esophoria 6°, abduction 8°.

*October 6th.*—Esophoria 3, in acc. 6°, abduction 6°. With correction of refraction, exophoria ½°, esophoria 9° in acc., abduction 8°. Can work three hours a day. Has not the same tendency to lose the focus by crossing of the eyes as before the operation.

CASE XXI.—William H., aged forty-four, married, merchant, came May 23, 1887. Mr. H. was troubled with headache all his life, and supposed it was due to indigestion until three years ago, when it was suggested that it might be due to eyestrain. He then went to Dr. Stevens, who gave him glasses and exercised his ocular muscles with prisms. The glasses relieved his headaches, but recently he has had a relapse. If he reads at all without his glasses, or even three minutes with them, his "head is wrong," and he becomes intensely sick all over, but does not vomit. His general health is good, his bowels regular, he sleeps well. He never had any disease except malaria.

R. V. = $\frac{20}{20}$; Hm. $\frac{1}{60}$. L. V. = $\frac{20}{20}$ —; $\frac{20}{20}$ + with + $\frac{1}{60}$ c. ax. 90°.

Esophoria 3° to 6°, in accommodation 15°. No hyperphoria, abduction 2, adduction 23°, sursd. R. 0°, L. 0°. His glasses are prisms, base out.

*May 24th.—Tenotomy of left internus*, leaving orthophoria.

*September 20th.*—Mr. H. thinks he was helped very much by the operation, but is not entirely relieved.

*21st.*—Esophoria 6°, abduction 2°, adduction 22°. *Tenotomy of right internus.*

*October 10th.*—No headache since the last operation. Wears no glasses and uses his eyes with comfort. Orthophoria.

Case XXII.—John H., aged forty-two, brother of the last patient, consulted Dr. Agnew and myself on April 9, 1888. He had always been subject to headache more or less, and had thought it "due to his liver," until attention was called to his eyes. He had worn glasses for two years, prescribed by Dr. Stevens, and the doctor had cut both his interni. His headaches had in this way been partially relieved.

R. V. = $\frac{20}{20}$; $\frac{20}{15}$ with — 0·25 D. s. — 0·25 D. c. ax. 180°. L. V. = $\frac{20}{40}$; $\frac{20}{20}$ with — 1 D. cyl. ax. 180°.

*April 14th.*—Under atropine :

R. V. = $\frac{20}{15}$; Em. L. V. = $\frac{20}{100}$; $\frac{20}{15}$ with + 0·50 D. c. ax. 90° — 1·50 D. c. ax. 180°.

No hyperphoria, esophoria 6°, abduction 8°, adduction 18°.

*September 6th.*—Mr. H. says his headaches now occur about once a month, generally on waking in the morning, and lasting over four hours. After reading a long time he has a "feeling of tightness" in the head.

With his refraction corrected he has esophoria 7°, in acc. 4°, abduction 8°, no hyperphoria. Without glasses, esophoria 5°, in acc. 3°, abduction 8°.

*Tenotomy of left internus*, leaving orthophoria and abduction 12°.

*7th.*—Esophoria 10°, abduction 8°, no hyperphoria.

*October 4th.*—Esophoria 3°, abduction 8°. Has been wearing concave cylindrics with prisms, base to nose, and is not relieved. Changed glasses to — cyl. with prisms, bases out.

Case XXIII.—R. H. O., aged forty-seven, consulted me on May 8, 1888. His eyes pain a great deal at times if he uses them much. Preceding the pain his eyes blur, and following the pain in the eyes is a headache. He uses + 2 D., both, for reading.

R. V. = $\frac{20}{20}$; $\frac{20}{15}$ with + 1·25 D. s. + 0·50 D. c. ax. 180°. L. V. = $\frac{20}{15}$; the same with + 0·75 D. s. + 0·50 D. c. ax. 180°.

No hyperphoria, esophoria 3°, in acc. 0°, abduction 4°, adduction 45°, sursd. R. $1\frac{3}{4}$°, L. 2°.

Ophthalmoscopically, no lesion.

*May 10th* —Under homatropine:

R. V. = $\frac{20}{70}$; $\frac{20}{15}$ with + 1·25 D. s. + 0·50 D. c. ax. 180°. L. V. = $\frac{20}{70}$; $\frac{20}{15}$ with + 1·25 D. s. + 0·25 D. c. ax. 180°.

No hyperphoria, esophoria 3°, abduction 4°.

*14th.*—R. V. = $\frac{20}{20}$ with + 1·25 D. s. + 0·25 D. c. ax. 180°. L. V. = $\frac{20}{20}$ with + 1 D.

No hyperphoria, esophoria 3°, abduction 5°.

*15th.*—V. = $\frac{20}{15}$ with + 1 D. each.

For the distance, ordered + 1 D. prism 1°, base out, each. For reading, + 2·75 D. both.

*31st.*—Has less headache, but still has a good deal of pain in the eyeballs. Ordered + 1 D. prisms, $1\frac{1}{2}$° each, base out, and medium smoke-glasses for bright light.

*August 21st.*—Has more or less headache and pain in eyeballs on using his eyes. Esophoria 4°, with hypermetropia corrected. Without correction, esophoria 8°, abduction 5°, adduction 22°, sursd. R. 1°, L. 1°.

*22d.*—Muscular condition unchanged. *Tenotomy of the left internus*, leaving orthophoria with abduction 10°.

*23d.*—Esophoria 1°, abduction 8°. In coming over from Brooklyn this morning he did not have the usual strained feeling in looking about at various objects.

*September 5th.*—Eyes have "felt first-rate." Hyperphoria 0°, esophoria 5°, without correction of hypermetropia. With correction, esophoria 1°, abduction 5°.

Case XXIV.—Miss Alice B., aged twenty-seven, consulted us on June 13, 1887. After using her eyes she has headache. She can not look steadily at anything. Her father died insane. His mother, sister, and cousin also were insane. She has a cousin in an insane asylum. She broke down after a hard winter's work, and has since had headache almost without intermission. She has a feeling in the back of the head and neck as if her head were being drawn back. She also has a "jumping headache" all over the top of her head. The jar of walking hurts her. Sometimes she feels "sort of lost," as if she did not know anything.

For many years she has observed that her left pupil is a little smaller than the right.

R. V. = $\frac{20}{20}$ —; Hm. $\frac{1}{48}$. L. V. = $\frac{20}{20}$ — ; Hm. $\frac{1}{48}$.

Spectacles + $\frac{1}{40}$ were prescribed, and she was put upon increasing reading tasks.

*August 20th.*—She now reads four hours a day with her glasses.

Exophoria 12°, abduction 15°. She has single, binocular vision in reading.

Tenotomy of left externus, leaving orthophoria.

*June 21st.*—The headache she had yesterday before the operation was forgotten after it, and has not come on since.

*August 27th.*—She has done her usual work as governess since last here. She has experienced none of the "drawing feeling" in the back of the head and neck, but has had a tired feeling. Orthophoria, abduction 10°, adduction 12°.

Case XXV.—Bridget C., aged forty-three, came to the clinic at the Manhattan Eye and Ear Hospital on October 2, 1885. She complains that she can not see well, that her eyes ache after use, that she has a swimming sensation, and has pain through her temples.

R. V. = $\frac{20}{30}$; Hm. $\frac{1}{18}$. L. V. = $\frac{20}{20}$; Hm. $\frac{1}{16}$.

Reads J. 1 at 9″ with + $\frac{1}{10}$.

Exophoria 12°, in acc. 29°.

Ophthalmoscopic examination shows no lesion.

Glasses, R. + $\frac{1}{18}$, L. + $\frac{1}{20}$ were ordered for the distance, and + $\frac{1}{10}$, both eyes, for near work.

*June 4, 1886.*—Exophoria, 12°; in acc., 28°. The patient says the glasses gave complete relief from the pain in her eyes and head, and also from the dizziness, for five or six months, and then these symptoms returned and were as severe as before. She has been advised to have a tenotomy of an external rectus, but refused.

*July 2.*—Exophoria 7°, in acc. 14°.

*Tenotomy of right externus.*

*23d.*—Orthophoria. Exophoria in acc. 3°.

The patient states that the tenotomy did not give immediate relief, but after three or four weeks relief was complete, though she was compelled to continue the use of her glasses to insure comfort.

*April 6, 1888.*—The patient says she does not see with her glasses so well as at first, and that for the last three or four months she has had occasional attacks of pain in the eyes and in the head, but the pain is not constant nor so severe as it used to be. Orthophoria.

R. V. = $\frac{20}{100}$; $\frac{20}{15}$ with + $\frac{1}{15}$. L. V. = $\frac{20}{100}$; $\frac{20}{20}$ with + $\frac{1}{15}$.

Reads Jaeger No. 1 at 8″ with + $\frac{1}{9}$. Prescribed + $\frac{1}{15}$ for the distance, and + $\frac{1}{9}$ for the near.

Case XXVI.—W. J. T., aged thirty, consulted me on August 9, 1887. His eyes have had a strained feeling, and the lids would get red. The surface of the eyeball is bloodshot, especially over the internal rectus.

In 1879 and 1880 he suffered greatly from headaches, which were relieved by glasses. He is now wearing Rt. prism 2°, base in. Lft. — $\frac{1}{18}$ s. prism 4°, base in.

R. V. = $\frac{20}{20}$ — ; $\frac{20}{20}$ + w. + 0·50 D. c. ax. 90°. L. V. = $\frac{15}{200}$; $\frac{20}{15}$ w. — 2 D. — 1·50 D. c. ax. 180°.

Exophoria 10°, in acc. 15°, abduction 15°, adduction 5°.

*August 10th.—Tenotomy of the left externus.*

*11th.*—Exophoria 15°.

*12th.*—Exophoria 6°, abduction 15°.

*13th.*—Exophoria 8°, abduction 15°, adduction 22°.

*14th.*—Exophoria 15°, abduction 15°, adduction 25°.

Ordered Rt. + 0·25 D. c. ax. 90°, prism 4°, base in. Lft. — 2 D. — 0·50 D. cyl. ax. 180°, prism 2°, base in.

*August 30, 1888.*—The patient has just returned from a European tour. He has had no headache since the tenotomy. He has worn the glasses constantly.

No hyperphoria, exophoria 20°, abduction 24°, adduction 20°.

He has no redness of his eyes, and no trouble relating to his eyes or head since the tenotomy.

Case XXVII.—Mrs. H. W. B., aged forty-four, consulted Dr. Agnew, January 9, 1888. She complained that on using her eyes a pain would come in them, and then the sight would get dim. There is constant sense of weight in her eyes. If she sews or reads, things get double, a phantom or shadow following the real object. She has much headache, and feels better when lying down.

R. V. = $\frac{20}{20}$ ; E. L. V. = $\frac{20}{20}$ ; E.

Abduction 2°, adduction 12°.

*January 10th.*—Esophoria 1°, abduction 1°, adduction 16°, hyperphoria 0°.

Sursumduction, R. 1°, L. $\frac{1}{2}$°.

Ophth. shows physiological excavation, no lesion.

*March 6th.*—Esophoria $\frac{1}{2}$°, exophoria in acc. 6°, abduction 2°, adduction 16°, no hyperphoria.

*7th.*—Esophoria 2°, abduction 2°.

*Tenotomy of left internus, by Dr. Agnew*, leaving exophoria 1° and abduction 5°.

*March 9th.*—Esophoria 2°, abduction 2°.

*10th.*—Esophoria 3°, exophoria in acc. 6°, abduction 1°, adduction 18°.

*14th.*—Esophoria 3°, abduction 2°.

*23d.*—Esophoria 1°, abduction 2°.

*April 4th.*—Esophoria 1°, abduction 2°, adduction 14°.

*May 4th.*—Esophoria 2° to 3°, exophoria in acc. 2° to 3°, abduction 2°, adduction 14°.

Sursumduction, R. 1°, L. 1°.

*7th.*—Esophoria $\frac{1}{4}$°, abduction 2°.

*18th.*—Esophoria 4°, exophoria in acc. 2°, abduction 2°, adduction 22°.

*24th.*—Esophoria 1° to 2°, abduction 2°, adduction 21°.

*Tenotomy of right internus*, leaving abduction 8° and exophoria $\frac{1}{2}$°.

*May 25th.*—Esophoria $\frac{1}{2}$°, abduction 5°, adduction 18°.

*26th.*—Bleeding occurred from the wound at 4 P. M. The blood also came from the nose and mouth. The bleeding continued two hours and a half, and was much more than at the operation.

*28th.*—Esophoria $\frac{1}{2}$° to 2°, abduction 5°, adduction 19°.

*31st.*—Esophoria $\frac{3}{4}$°, abduction 3°, adduction 18°.

A letter from Mrs. B., dated August 4, 1888, says: "For about two weeks after I saw you my eyes were comfortable. Then the feeling of drawing of the muscles and the aching began again, and I have seldom been free from pain since, in greater or less degree." Abduction 2°, adduction 18°.

Case XXVIII.—Miss Jane C., aged twenty-three, came on August 10, 1887. Her trouble began five years ago while at school. She complains of "heaviness in the head" and of "a very peculiar feeling where the neck joins the head, like a tightening as if a screw were put in." Toward the end of the day it gets worse. The top of her head feels "as if the muscles were drawn up together and tied in a knot." Often she has a burning sensation there. Her hands and arms are weak, and when she is tired they tremble. Menstruation scanty, no pain. Digestion poor. Has to take violent exercise in order to digest anything.

R. V. = $\frac{20}{15}$; E. L. V. = $\frac{20}{15}$; E.

Hyperphoria L. $\frac{1}{2}$°, exophoria 1°, abduction 9°, adduction 18°, sursumduction R. 3°, L. 3°.

*August 13th.*—Exophoria 2°, abduction 8°, adduction 15°.

*15th.*—Hyperphoria R. 1°, exophoria 3°, abduction 8°, adduction 22°.

Glasses were prescribed, R. prism 1°, base down; L. prism 2°, base in, to wear all the time.

*24th.*—A great deal of the pain has left the back of her head, but there is still "quite a pulling."

*September 7th.*—Exophoria 8°, abduction 10°. *Tenotomy of left externus.*

*27th.*—Exophoria 2°.

This patient was only partially relieved by the tenotomy and by glasses.

Case XXIX.—W. G. B., aged forty-six, came with the following letter from Dr. E. C. Seguin, September 30, 1887:

"Mr. B. has, besides anæmia and dyspepsia, certain head symptoms which, I think, are asthenopic. Convergence hurts his eyes and head; moving objects cause dizziness and nausea. He had a short period of diplopia in May last. I find no positive evidences of organic cerebral disease."

Mr. B. says he never had any trouble with his eyes till very recently.

R. V. = $\frac{20}{20}$; $\frac{20}{15}$ with + 0·50 D. c. ax. 90°. L. V. = $\frac{20}{15}$; sharper with + 0·25 D. c. ax. 90°.

Accommodation = $\frac{1}{12}$, abduction 4°, adduction 16°, esophoria 1°, hyperphoria, R. 1°.

Ophth.: No lesion. Optic discs look hyperæmic.

*October 1st.*—Under atropine:

R. V. = $\frac{20}{70}$; $\frac{20}{15}$ with + 0·75 D. s. + 0·50 D. c. ax. 90°. L. V. = $\frac{20}{70}$; $\frac{20}{15}$ with + 1·50 D. s.

Hyperphoria 0°; sursumduction R. 0°, L. 0°, esophoria 2°, abduction 3°, adduction 18°.

*3d.—Tenotomy of right internus*, leaving exophoria $\frac{1}{2}$° and abduction 10°.

*4th.*—Orthophoria, abduction 6°, adduction 10°.

*11th.*—The patient thinks his head has felt better since the second day after the operation. There has been less of the dizzy feeling. It makes him dizzy now to look to one side. He still has the pain in the back of his head. Esophoria 1°, abduction 5°, adduction 20°. Glass for the distance + 0·25 D. c. ax. 90°. Prism $\frac{1}{2}$°, base out, both eyes, were ordered, and for the near, + 0·25 D. c. ax. 90° + 0·50 D. s.

*14th.*—The glasses for distant vision misplace objects and have made him very uncomfortable. Abduction 3°, adduction 22°, esophoria 3°.

*Tenotomy of the left internus*, leaving exophoria $\frac{1}{2}$° with abduction 6°.

*October 15th.*—Abduction 5°, esophoria $\frac{1}{2}$°. His head symptoms have been better since the last cutting.

*19th.*—Orthophoria, abduction 5°.

*28th.*—Esophoria 1° to 2°, abduction 3°. Attempts to exercise the muscles with prisms produced nausea, pain in occiput, confusion, and drowsiness, which would last for several hours. The prism exercise was omitted one day, and he had a very comfortable day, though doing quite a deal of business down town.

The following is from a letter dated January 3, 1888, written by his wife:

"Mr. B. has put off writing, hoping to report more favorably than his condition has as yet justified. His eyes have given him great discomfort, and are now more painful than they have ever been. To look at anything nearer than twenty inches, with or without his glasses, or the slightest pressure on his nose or scalp, causes an aching pain in the eyeballs that lasts for hours, sometimes for two days, accompanied by severe pain at the base of his brain and down to his shoulders, pulling the eyeballs toward the back of his head, a sensation as though a lot of hooks were in the eyes drawing them back. This makes him very nervous. His eyes are more painful when lying down even on the softest pillow."

[*October 8, 1888.*—For some time after the operation there was much sensitiveness of eyes deep in orbits, and Mr. B. felt as if the operation had done him harm. During the late spring this idea was dispelled, and in the months of July, August, and part of September he was quite free from occipital pain and paræsthesia. These have returned somewhat since straining the eyes by looking at a bright moving object last month. Has been able to write for two or three hours, but not to read in last four months. General health much improved. Movements of eyeballs in any direction are painful. It would seem as if we had to deal in this case with weakness or paresis of all the ocular muscles, to be benefited more by general treatment than by any mechanical means.—E. C. S.]

*9th.*—Orthophoria, abduction 3°, adduction 21°.

CASE XXX.—Mrs. J. A. M., aged twenty-seven, came to me on April 28, 1888, presenting the following letter from Dr. Seguin: "This note is presented by Mrs. M., who has been under the care of an eminent gynæcologist and under mine for three years. Her ovarian trouble is cured, and there is no great uterine displacement. Neurasthenia, with a great variety of symptoms, is the complaint for which I am treating her, mostly by tonics and food. Asthenopia has been prominent from the first. I have long urged that her eyes be examined. The case is peculiarly one of those in which a doubt may exist as to which is primary—the asthenopia or neurasthenia."

Mrs. M. says that for three or more years she has been seeing double; that when her mind is concentrated on the object looked at it remains single, but as soon as she ceases to concentrate, it becomes double.

R. V. = $\frac{20}{30}$; E. L. V. = $\frac{20}{40}$; E. Hyperphoria 0; esophoria 10° to 14°; orthophoria in acc.; abduction 0°, adduction 20°; a red glass over one eye brings out diplopia.

Ophthalm.: Physiological excavation, venous pulsation, no lesion.

*April 30th.*—Under homatropine:

R. V. = $\frac{20}{30}$; $\frac{20}{20}$ with + 0·50 D. c. ax. 45°. L. V. = $\frac{20}{20}$; $\frac{20}{30}$ with + 0·50 D. c. ax. 135°.

Esophoria 12°, abduction 3°, adduction 30°, sursumduction R. 1°, L. 1°.

*May 1st.*—Esophoria 12°, abduction 1°, adduction 31°.

*Tenotomy of right internus*, leaving esophoria 4° and abduction 5°.

*2d.*—Patient had excruciating pain in the eye operated upon, which lasted from 1 P. M. to 5 P. M.

Esophoria 4°, abduction 4°, adduction 27°.

*3d.*—Esophoria 5°, abduction 5°, adduction 34°.

*4th.*—Abduction 5°, adduction 36°, esophoria 6°.

*7th.*—*Tenotomy of left internus*, leaving esophoria 1° to 2°, with abduction 13°.

*8th.*—Abduction 9°.

*9th.*—Patient says she has got rid of a certain "bound-up feeling in the back of her head," which she used to have for days and for weeks in succession. Her headache has not been so bad since the operation. Esophoria 3°, abduction 6°, adduction 35°.

*15th.*—Esophoria 2° to 9°, abduction 6°, adduction 30°. The patient says she has no trouble with her menstruation since the operation.

CASE XXXI.—Mrs. D. L., aged forty, consulted me January 6, 1887. She has for years been a great sufferer from periodic headaches, from which she has experienced only partial and temporary relief by medication and change of climate. Her physical condition is bad. She is anæmic and thin. Her physician, Dr. E. J. Bermingham, thinks her headaches may be due to eye-strain. The pain commences in the back of the left eye and goes down the back of her neck, more especially after reading or sewing.

Ophthalm.: No lesion.

R. V. = $\frac{20}{20}$; E. L. V. = $\frac{20}{20}$; E.

Orthophoria, abduction 7°, adduction 9°.

Acc. = $\frac{1}{8}$. Slight conjunctivitis.

*January 12th.*—Under atropine:

R. V. = $\frac{20}{40}$; $\frac{20}{20}$ with + $\frac{1}{30}$ s. L. V. = $\frac{20}{70}$; $\frac{20}{20}$ with + $\frac{1}{30}$ s. + $\frac{1}{60}$ c. ax. 180°.

Glasses + $\frac{1}{36}$ were ordered to be worn all the time.

*26th.*—The attacks of pain are not so severe and do not last so long. Put upon reading tasks by Dyer's method.

Exophoria 4°, abduction 7°, adduction 14°. No hyperphoria.

*March 1st.*—Abduction 8°, adduction 14°. Is reading half an hour twice a day. Exophoria 4°.

*Tenotomy of external rectus of left eye*, followed by excessive bleeding into subconjunctival connective tissue.

*April 13th.*—Has had two of those terrible attacks since the operation. She reads an hour twice a day. Abduction 14°, adduction 8°.

*May 11th.*—Exophoria 2°, none in accommodation, no hyperphoria. Abduction 9°, adduction 8°, no sursd. Has had a great deal of pain since she was here.

*23d.*—Exophoria 6°, in acc. 9°, abduction 9°, adduction 8°.

*August 17th.*—Exophoria 5°. Headaches continue.

*September 2d.*—*Tenotomy of external rectus of right eye.* The operation was followed by so much hæmorrhage as to necessitate the application of a pressure bandage for three days.

*September 23d.*—There still remains much extravasated blood. The headaches are somewhat relieved, but far from cured. Exophoria 1°.

I now sent her to Dr. Seguin, who attributed much of her neurotic condition to the habitual use of opiates and other narcotics, and who interdicted their use, but without avail, as she thought she could not endure her pain without them.

*October 13th.*—Exophoria 5°.

*24th.*—Dr. Seguin writes: "You remember Mrs. L., whom you sent to me recently. After a very few questions I discovered one reason (probably the chief reason) why your work on her eyes has been thrown away. For three years she has taken morphine for each attack, and at intervals frequently, for insomnia, chloral and bromides. Like some other cases I have seen treated in this way, she has observed an increasing degree of pain. These remedies weaken the nervous system greatly, and I believe, from a series of observations, exert a peculiarly weakening effect upon the interni. No treatment will do her good until she dispenses with these drugs."

*November 16th.*—Headaches are as bad as ever, but different and more general.

Exophoria 1° to 2°, in acc. 4°, abduction 9°, adduction 7°.

Mrs. L. soon after went to California. In a letter, dated February 23, 1888, she says that the attacks of neuralgia continued for some time, but that she recently had a longer interval of relief than at any time in two years; that she had done a good deal of reading, writing, and sewing, as well as other work, and that she attributed the relief more to the operations upon her eyes than to the change of climate.

CASE XXXII.—Mrs. S. B. C., aged thirty-six, came to me on May 12, 1888, with the following letter from Dr. Seguin: "Will you kindly examine Mrs. C.'s eyes? She has a rather odd form of migraine, and describes other symptoms produced by attempts to write and sew."

R. V. = $\frac{20}{30}$; $\frac{20}{15}$ with + 0·75 D. L. V. = $\frac{20}{30}$; $\frac{20}{15}$ with + 0·50 D.

No hyperphoria. Exophoria 2°, in acc. 0°, abduction 14°, adduction 30°, sursd. R. 1°, L. 1°. Ophthal.: No lesion.

*May 15th.*—Under atropine:

R. V. = $\frac{20}{70}$; $\frac{20}{20}$ w. + 1·50 D. L. V. = $\frac{20}{70}$; $\frac{20}{20}$ w. + 1·25 D.

Abduction 18°, with correction of H. 12°. Adduction 18°; the same with correction. Orthophoria.

*May 17th.*—Exophoria 17°, abduction 20°, adduction 25°. No hyperphoria.

*22d.*—Exophoria 2°, abduction 18°. *Tenotomy of left externus*, leaving exophoria 2°, with abduction 12°.

*24th.*—Exophoria 3°, abduction 16°, adduction 14°.

*26th.*—Orthophoria, abduction 14°, adduction 20°.

*29th.*—Exophoria 2° to 4°, abduction 18°. *Tenotomy of right externus*, leaving orthophoria, with abduction 3°. I put in a stitch to prevent overcorrection.

*31st.*—Exophoria less than 1°, abduction 8°.

*June 2d.*—Esophoria 3°, in acc. 1°, abduction 9°, adduction 20°.

R. Hm. 1 D. L. Hm. 0·75 D.

With the above-described glasses, esophoria 6°.

*6th.*—Esophoria 2° to 3°, abduction 10°, adduction 30°.

*22d.*—Esophoria 1°, in acc. 2°, abduction 10°, adduction 34°. No hyperphoria.

The patient has been wearing glasses correcting her manifest hypermetropia. She says her headaches seem to be very much the same as before the operations, if anything more frequent, and in severity about the same.

A letter received from Mrs. C., dated September 2d, says: "Since the 1st of August, when I left New York, I have been much better. Before that time my headaches were as persistent and severe as usual, but the change of air seems to have done me good. I can use my eyes for an hour or more for reading, etc., without fatigue, except after an attack of headache. In that case I can only read a few lines of printed letters without their becoming blurred and unsteady. This lasts from one to ten days, according to the amount of pain in the head."

CASE XXXIII.—C. W. G., aged twenty-one, was referred to me by Dr. Seguin on October 8, 1886. He had been wearing convex cylindrics for nearly a year. While studying technology in Boston he broke down in March with pain in the back of his head and neck, which became constant. He had not noticed that it was made worse by the use of his eyes. He has slight frontal and temporal pain on use of his eyes. He is troubled with dizziness.

R. V. = $\frac{20}{40}$ +; $\frac{20}{15}$ with + $\frac{1}{48}$ c. ax. 180°. L. V. = $\frac{20}{20}$; $\frac{20}{15}$ with + $\frac{1}{60}$ c. ax. 90°.

Esophoria 4°, in acc. 4° to 8°. No hyperphoria, abduction 2°, adduction 17°.

Ophthalmoscope: Physiological excavation of hyperæmic optic discs.

*October 11th.*—Under atropine:

R. V. = $\frac{20}{80}$; $\frac{20}{20}$ with + $\frac{1}{48}$ c. ax. 180°. L. V. = $\frac{20}{20}$; $\frac{20}{15}$ with + $\frac{1}{60}$ c. ax. 180°.

Esophoria 13°.

*18th.—Tenotomy of right internus.*

*20th.*—Esophoria 5°.

*23d.*—Esophoria 2°. The patient says he has less pain in the back of his head and feels better generally.

*November 9th.*—Esophoria 3°. Ordered glasses:

R. + $\frac{1}{60}$ c. ax. 180°, prism $1\frac{1}{2}$°, base out. L. + $\frac{1}{60}$ c. ax. 180°, prism $1\frac{1}{2}$°, base out.

*26th.*—Abduction 4°, adduction 17°.

*29th.*—Patient much relieved in back of head.

CASE XXXIV.—Sarah G., aged twenty-five, came to the clinic at the Manhattan Eye and Ear Hospital on April 25, 1887. She complained of dimness of vision and blurring of sight when reading or sewing, but disclaimed headache or pain in or about the eyes.

R. V. = $\frac{20}{20}$; Hm. $\frac{1}{72}$. L. V. = $\frac{20}{20}$; Hm. $\frac{1}{72}$. No hyperphoria, exophoria 11°, in acc. 0°, abduction 10°, adduction 16°.

Ophthalmoscope: No lesion.

*April 27th.*—Exophoria 10°, in acc. 12°.

*Tenotomy of left externus*, leaving homonymous diplopia 14°.

*April 29th.*—Esophoria 4°.

*May 2d.*—Esophoria 3°.

*4th.*—Exophoria 4°, abduction 8°, adduction 16°.

*6th.*—Exophoria 3°, in acc. 0°, abduction 8°, adduction 16°.

*9th.*—Exophoria 4°.

*13th.*—Exophoria 4°, abduction 8°, adduction 18°.

*October 10th.*—Exophoria 8°, in acc. 16°, abduction 18°, adduction 9°.

*Tenotomy of right externus*, leaving esophoria 8°.

*October 12th.*—Homonymous diplopia 18° to 20°. The right externus was now advanced to nearly its former place of insertion.

*13th.*—Esophoria 2°.

*14th.*—Orthophoria.

*17th.*—Esophoria 5° to 6°.

The patient has glasses correcting her manifest hypermetropia. She says she has more headache than before the operations upon her eyes.

*28th.*—Exophoria 1°, in acc. 3°, abduction 10°, adduction 20°.

*November 23d.*—Orthophoria, abduction 8°, adduction 27°, sursumduction R. 3°, L. 3°.

*January 13, 1888.*—Esophoria 5°, in acc. 0°, abduction 4°, adduction 23°.

*May 9th.*—Esophoria 4°, in acc. 0°, abduction 3°, adduction 18°. No hyperphoria.

The patient complains of diplopia when looking to the right or left. She has noticed this since the last tenotomy. She has no pain in the eyes or head, but her eyes tire after reading or sewing.

*August 1st.*—The patient says her double vision on looking to the right or left troubles her a great deal, both on the street and in the house. She has pain in the eyes, some days all day and some days none at all. Esophoria 4°, abduction 1°, adduction 20°. Advancement of an externus was advised.

CASE XXXV.—Mr. J. O., aged thirty, was referred to me by Dr. Seguin on October 19, 1887, with the following note: "Mr. J. O., who presents this note, has been under my care, off and on, for two or three years for malarious symptoms, anæmia, constipation, etc., but also for headaches, which no medical treatment improves. Scores of experiments go to show clinically that the headaches are from his eyes, and I would therefore ask your help for the problem."

R. V. = $\frac{20}{40}$; $\frac{20}{20}$ with + 0·50 D. c. ax. 90° — 0·50 D. c. ax. 180°. L. V. = $\frac{20}{50}$; $\frac{20}{20}$ with + 0·50 D. c. ax. 90° — 0·75 D. c. ax. 180°.

No hyperphoria, esophoria 3°, in acc. 3°.

Sursumduct. R. 1°, L. 1°, abduction 3°, adduction 20°.

The ophthalmoscope shows numerous very small yellowish spots scattered about over a large area at the posterior pole of both eyes.

*October 20th.*—Under homatropine:

R. V. = $\frac{20}{70}$; $\frac{20}{15}$ with + 1 D. s. + 1 D. c. ax. 90°. L. V. = $\frac{20}{70}$; $\frac{20}{15}$ with + 1 D. s. + 1·25 D. c. ax. 90°.

Esophoria 6°, abduction 3°.

*25th.*—Has been exercising his externi with prisms. He has found that mornings he could overcome 5°, while evenings he could overcome only 3°. Esophoria 2°.

*November 14th.*—Has had less headaches since he was here than for a long time before. Esophoria 1°.

*December 14th.*—Esophoria 2° to 3°, exophoria in accom. 1°, abduction 3°, adduction 18°, sursumduction R. 1°, L. 1°.

*15th.*—Adduction 24°.

*16th.*—Adduction 25°.

*19th.*—*Tenotomy of right internus*, getting orthophoria, with abduction 8°.

*20th.*—Has + $\frac{1}{36}$ c. ax. 90°, both for constant use.

*21st.*—Esophoria 1°, abduction 6°.

*25th.*—Mr. O. wrote: "My eyes are getting along nicely, and for the last two days there were no signs of headache. If this pleasant state continues it will be all that I could possibly desire."

*30th.*—Orthophoria, exophoria in acc. 4°, abduction 6°, adduction 20°.

I have recently heard that Mr. O. does not think he was made better or worse by the tenotomy.

Case XXXVI.—Miss A. G. P., aged twenty-nine, came on December 29, 1886, with the following note from Dr. Seguin: "Miss P. suffers from neurasthenia, with a strong predominence of asthenopia. Her general condition has so much improved that she can go to your office and stand testing pretty well. I have found no very evident optical defect, and suspect the interni of being at fault."

Miss P. states that she has suffered from nervous prostration since July last. At times her eyes feel tired and then rested again without use. At other times they feel tired after reading, and there is a general feeling of lassitude. She had a similar attack three years ago.

R. V. = $\frac{20}{20}$ +; E. L. V. = $\frac{20}{20}$ +; E.

Orthophoria, abduction 10°, adduction 12°. Ophthal.: No lesion.

*December 31st.*—Under atropine: V. = $\frac{20}{20}$; E., both. Orthophoria, abduction 8°, adduction 14°.

*January 10, 1887.*—Orthophoria, esophoria in acc. 5°, abduction 10°, adduction 16°.

*12th.*—A. = $\frac{1}{5}$ each. Read five minutes, but eyes got very tired before the five minutes were up. Abduction 10°, adduction 15°.

*Tenotomy of left externus*, Dr. Seguin and Dr. Way present.

*22d.*—Orthophoria, abduction 7°, adduction 20°.

*29th.*—Orthophoria, abduction 10°, adduction 20°. Ordered glasses + $\frac{1}{72}$ for both eyes, and read five minutes twice a day, and increase the task two minutes daily.

*February 3d.*—Read ten minutes this morning; eyes got a little tired. Orthophoria, abduction 8°, adduction 17°.

*March 25th.*—Has continued reading half an hour twice daily, and is much improved. Abduction 7°, adduction 16°, orthophoria.

*April 25th.*—Miss P. writes: "Since my return home four weeks ago I have improved greatly. My eyes are much stronger than when I last saw you. I now read forty-five minutes both morning and afternoon. I find I read forty-five minutes now much easier than I read thirty minutes four weeks ago."

*October, 1888.*—A relapse followed in the summer, and afterward the patient was placed somewhere for a rest-cure; result unknown. I had satisfied myself that much of this patient's invalidism was connected with unfavorable moral home conditions (discontent, irritation, etc.).—E. C. S.

Case XXXVII.—DeWitt D., aged twenty-nine, clerk, married, consulted us June 10, 1887, for asthenopia. He complained of his head. Sometimes he can not see what he is writing. The letters run together.

R. V. = $\frac{20}{30}$; $\frac{20}{20}$ with − $\frac{1}{72}$. L. V. = $\frac{20}{30}$; $\frac{20}{20}$ with − $\frac{1}{72}$.

*June 13th.*—Under atropine:

R. V. = $\frac{20}{50}$; $\frac{20}{15}$ with + $\frac{1}{24}$. L. V. = $\frac{20}{70}$; $\frac{20}{15}$ with + $\frac{1}{30}$ s. + $\frac{1}{60}$ c. ax. 60°.

*22d.*—Ordered glasses + $\frac{1}{30}$ s., both eyes, for all the time.

*January 16, 1888.*—Patient wore the glasses all the time for five or six weeks. He then left them off for the distance, because his eyes were more comfortable without them. He could not see well in the distance with them, and they made his eyeballs feel sore. He used them for near work up to within four weeks, and then found he could see better and more comfortably without them. But now he has got so that he can not get along with or without them. His eyes begin to pain as soon as he begins to use them, and after a few minutes he has to close them and keep them closed. He has headache three or four days out of a week, over the eyes and back of the ears.

R. V. = $\frac{20}{20}$; $\frac{20}{15}$ with + 0·25 D. cyl. ax. 40°. L. V. = $\frac{20}{15}$; $\frac{20}{15}$ with + 0·25 D. cyl. ax. 60°.

Esophoria 3°, in acc. 1°. Hyperphoria R. $\frac{1}{2}$°, abduction 5°, adduction 18°, sursd. R. 2°, L. 1°.

Ordered glasses + 0·50 D. both, and to exercise ocular muscles with prisms.

*20th.*—Abduction 5°, adduction 18°.

*31st.*—Esophoria 9°, in acc. 3°, abduction 3°, adduction 18°.

*February 8th.*—Esophoria 6°, abduction 3°.

*17th.*—Esophoria 7°, in acc. 2°, abduction 3°, adduction 25°.

*Tenotomy of right internus*, leaving orthophoria with abduction 8°.

*18th.*—Esophoria 7°, abduction 4°, adduction 18°.

*20th.*—Esophoria 4°, exophoria in acc. 1°, abduction 4°, adduction 15°.

*May 14th.*—Esophoria 3°, abduction 5°, adduction 16°.

Ordered glasses R. + 0·25 D. + 0·25 D. cyl. ax. 180°. L. + 0·25 D. cyl. ax. 60°, prism 3°, base out.

*22d.*—Patient has furuncle of brow.

*April 17, 1888.*—Mr. D. says he is entirely rid of his headaches, but lately he has been using his eyes without the glasses, and print begins to blur, and he begins again to have pain over his eyes. Esophoria 3°. No hyperphoria. Abduction 5°, adduction 18°.

R. V. = $\frac{20}{15}$; Hm. 0·50 D. L. V. = $\frac{20}{15}$; Hm. 0·25 D.

Ordered the glasses last above for all the time.

Case XXXVIII.—Dr. W. M. L., aged thirty-three, was fitted with glasses by me, many years ago, for compound myopic astigmatism. On September 5, 1888, he stated that his eyes had been examined at the Manhattan Eye and Ear Hospital several months since, and that he had been found to have hyperphoria R. 10° and exophoria 18°. Examination on this date shows hyperphoria R. 18° and exophoria 18°. The second image is brought out by placing a red glass over either eye. Left eye swings out and down, and the dragging sensation is a source of considerable annoyance to the doctor. The eye also gets very tired on reading a short time.

*Tenotomy of left externus*, leaving exophoria 7°.

*September 6th.*—Exophoria 7°, hyperphoria R. 13°. With hyperphoria corrected, the exophoria is 6°.

*7th.*—Hyperphoria 12°, exophoria 7° to 9°. With hyperphoria corrected, there is exophoria 4°.

*8th.*—With the hyperphoria corrected, the exophoria is 6°.

*28th.*—Hyperphoria R. 14°, exophoria 14°.

*Tenotomy of left inferior rectus*, leaving hyperphoria R. 3° with exophoria 14°. The bleeding began as soon as the center of the tendon was snipped with the scissors and greatly embarrassed the rest of the operation. At the completion of the tenotomy the lower portion of the ocular conjunctiva bulged as from a high degree of chemosis.

*29th.*—Hyperphoria L. $\frac{1}{2}$°. The patient complains of constant and extremely annoying diplopia.

*30th.*—Hyperphoria L. 8°, exophoria 20°. With exophoria corrected, hyperphoria L. 4°.

*October 1st.*—Hyperphoria L. 6°, exophoria 18°. With exophoria corrected, hyperphoria L. 3° to 4°.

*2d.*—Hyperphoria L. 6°, exophoria 20°. The diplopia continues to be very troublesome, making the patient dizzy if he attempts to move about with both eyes open.

After consultation with Dr. George T. Stevens, I advanced the *left inferior rectus* with a single stitch, leaving hyperphoria R. 10°. The bleeding during this operation was even greater than it had been at the tenotomy.

*3d.*—Hyperphoria R. 3°. Great distension of lower half of ocular conjunctiva by subconjunctival hæmorrhage.

*4th.*—With his refraction corrected, and red glass over left eye, images fused by prism 8°, base in over right. With red glass over right eye, images fused by prisms 15°, base in, and 4°, base up over left.

*5th.*—Swelling and redness much less. The patient has not suffered from diplopia, nor has he had any pain, since the advancement.

*6th.*—Removed the stitch. No diplopia. Subconjunctival hæmorrhage is being rapidly absorbed.

*8th.*—Swelling gone and eye clearing up. At 20′ lights are fused by prism 19°, base in, and 2°, base up, over left eye, with red glass over right. No diplopia without red glass over one eye, or unless brought out by prisms.

Case XXXIX.—Miss Augusta W., aged thirty-four, teacher, consulted me May 2, 1888. She complained of seeing objects double at times. She was not the subject of headache, but she had long been afflicted with dyspepsia and nervous exhaustion which she said Dr. E. G. Loring had told her was due to the constant effort she made to keep her eyes looking in the same direction. Reading gives her a sensation of exhaustion in the stomach. Dr. Loring did a *tenotomy of her right internus* in November, 1887, and told her she must have the left cut afterward.

R. V. = $\frac{8}{200}$; $\frac{20}{15}$ with — 5 D. L. V. = $\frac{20}{30}$; $\frac{20}{15}$ with — 1 D. c. ax. 45°.

She is wearing this correction over the left eye with a plane glass over the right.

Hyperphoria L. 1°, esophoria 2°, in acc. 0°, sursd. R. 0°, L. 0°, abduction 0°, adduction 2°.

Ophthal.: No lesion except staphyloma posticum.

Professor W. Oliver Moore, M. D., kindly sent me, from Dr. Loring's records, the following note:

"Miss A. L. W., October 29, 1887. R. — $\frac{1}{6}$ V. = 1. L. — $\frac{1}{24}$ cy. 35° V. = 1.

"Insuf. exter. 10° between two eyes. Candle comes together in 3′. 20′ insuf. 10°, abduction 17°; 1′ insuf. 6°, adduction 10°. Cut left internus November 1st.

"*December 23d.*—R. plane, L. — $\frac{1}{36}$; ax. 35° ord.

"*April 23, 1888.*—Insuf. still 10°. Images come together in 3 ft."

*May 8th.*—Esophoria 3° with or without her glasses. With red glass over either eye there is homonymous diplopia. Red and yellow lights brought together by prisms 5°, base out, and 1° base down over left eye.

*Tenotomy of left internus*, leaving exophoria 3° and hyperphoria less than $\frac{1}{2}$°.

*August 30th.*—Miss W. writes: "I can say that my sight has been much benefited by the operation. The double vision does not trouble me, and my general health has improved. I still feel, however, the exhaustion after reading of which I complained in the spring. I can use my eyes for sewing or painting without having any unpleasant feelings."

*October 9th.*—Hyperphoria L. 1°, esophoria $\frac{1}{2}$°. The symptoms of indigestion have disappeared. After using her brain she still has a feeling of exhaustion in her chest. She can use her eyes a long time without trouble.

Case XL.—Miss Lulu T., aged eighteen, consulted me June 6, 1888. Right eye always very near-sighted. Pain in both eyes, more in right. In February, 1887, had so much pain that she was compelled to give up studying. Her general health has been good. She has had headaches "quite a good deal" and thinks it due to her eyes. She is wearing over the right eye a plane glass, and over the left + 1·50 D. c. ax. 90° — 1·50 D. c. ax. 180°.

R. V. = $\frac{4}{200}$; $\frac{20}{40}$ with — 7 D. — 1.25 D. c. ax. 135°. L. V. = $\frac{20}{70}$; $\frac{20}{15}$ with + 1·50 D. c. ax. 90° — 1·50 D. c. ax. 180°.

No hyperphoria, exophoria 16° to 20°, abduction 18°.

With red glass over one eye, prism 16°, base in, fuses images. She has had occasional diplopia for over a year.

Ophthal.: Rt. staphyloma posticum with chorioidal changes. Myopic 10 D. Left, no lesion.

*Tenotomy of right externus*, leaving exophoria 12°. The patient *fainted* during the operation, though she declared that she was not hurt.

*June 7th.*—Crossed diplopia 16°.

*Tenotomy of left externus*, leaving homonymous diplopia 12°.

*8th.*—Homonymous diplopia 10°.

*9th.*—Homonymous diplopia 15°.

Motion outward of left eye restricted. I now *advanced the left externus* by a single stitch and got homonymous diplopia 3°.

*10th.*—Homonymous diplopia 2°.

*12th.*—Homonymous diplopia 6° with or without red glass over one eye. At one foot crossed diplopia of 7°.

*13th.*—Homonymous images at 20′ fused by prism 4°, and crossed images at 1′ fused by prism 4°.

*15th.*—Homonymous images 3°. Has had no headache for three or four days.

*16th.*—Homonymous diplopia 1°, with red glass over one eye.

*August 3d.*—In a letter dated August 1st, Miss T. says: "The swelling on my left eye did not disappear entirely until one week ago. The eye is still a little red, but it does not trouble me any, and I have had but little headache since I left the city. I still see things double, and this is decidedly annoying. I fear the eyes are not straight, for the right one seems to turn out. I have had to give up all fine work and can read only very little at a time, as my eyes ache so badly if I use them."

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**Treatment of Epilepsy.**—"Considering the nervous disorders, partly of convulsive kind, which compose the cachexia strumipriva resulting from ablation of the thyreoid gland," says the "Lancet," "Siguicelli suggests that a derangement of the functions of the thyreoid body might play a part in the production of epilepsy. This idea led him to try the effect of galvanization of the thyreoid body in epileptics. Seven cases were tested: three showed no change in the progress of the disease; the other four presented first an augmentation and then a rapid and progressive diminution in the number of fits, which ceased entirely in one case for a month, and for two months in another instance; the mental state of the epileptics also improved."

# DIABETES MELLITUS FOLLOWING OBSTRUCTIVE JAUNDICE.

By A. B. SWEET, M. D.,
HANLEY FALLS, MINN.

As the pathology of diabetes mellitus is quite obscure and the disease is not amenable to any specific treatment, a history of this case may be of interest to the profession:

Mr. L., a traveling salesman of Minneapolis, aged fifty-nine, of German parentage, American born, of rather obese habit and previous good health, was attacked with obstructive jaundice in October, 1887, thought to be due to concretions in the tubes, attended with acute pain and enlargement of the liver and gall-bladder. An intolerable itching appeared with the jaundice, also the most obstinate constipation, which was finally overcome with large doses of salines and repeated doses of calomel, in one-grain doses, with jalap. The duration was from twelve to fourteen days, with tendency to recovery, when a relapse with less severity occurred, lasting from eight to ten days. Convalescence was protracted and a general decline was evident, and in four or five weeks Mr. L. noted a marked increase in the discharge of urine. For several weeks he passed from my observation, and when he consulted me again (in about eight weeks) I made an examination of his urine with the following results: He was passing from one half to three quarters of a gallon of urine daily, with a specific gravity of 1·040, and with from two to three per cent. of sugar.

His condition remained at this point for two months, except a progressive decline in flesh from 180 to 120 pounds in three months and a half.

His case at this date was very discouraging. A peculiar defect of vision occurred, as if all human faces were masked from the eyes downward, at a distance of fifteen to twenty feet. Thinking this imaginary, I examined his vision, which appeared normal with the exception of clouded lens and the retinal vessels occluded, doubtless with bile, as the sclerotic showed the remains of bile pigment.

I mention this disorder of vision as I wish to refer to it again, the other conditions not differing from the ordinary obese forms of diabetes mellitus.

The treatment has been mostly dietetic. Gluten bread only; fresh meats, lean and fat, of all kinds; milk, eggs, oysters, and vegetables, as cabbage, radishes, onions, and tomatoes, with a little dilute Hennessy brandy in the last six months. Saccharin in small quantities in coffee.

*Medicinal.*—Codeine in increasing large doses, according to Dr. Pavy's system, and antilithic remedies.

Mr. L. has taken all the exercise he could stand, and has pursued his vocation as salesman since his illness, except for two months, and in five months from the beginning of the diabetic treatment the sugar has gradually disappeared from his urine, the urine voided being nearly normal in color, quantity, and gravity, with a gain in bodily weight of twenty-two pounds.

His condition is improving gradually, apparently from the diet. No medicines have been given for the last six months. He still continues the diet. Fourteen months from date of illness Mr. L. appears in normal health, and still travels on the railroad.

From the above-given history I ask the privilege of a few quotations from our best authors on the pathology of diabetes mellitus, not to show I have anything new in the pathology of this obscure disease more than relates to the above-cited case.

In Dr. Bartholow's excellent work on "Practice," page 940, he gives the pathological anatomy in general, and when referring to the liver, states that the changes are not constant, for the organ sometimes appears quite normal; and that Dickinson states there were six healthy livers in twenty-seven cases examined. Carter, of London, is very guarded in his pathology as to the disturbance of the glycogenic functions of the liver produced by direct nervous influence upon the hepatic cells, or from vaso-motor disturbances producing dilatation of the hepatic arterial system, etc.

It might seem in this case allowable to assign the cause to disordered function of the bile itself from calculi formation and obstruction. The unknown action of the bile must be important when three or four pounds are secreted every twenty-four hours. If it assists in removing superfluous hydrocarbons from the body (under which the properties of sugar may be classed) and aids digestion, what is the effect on dependent organs when it becomes confined and passes to the circulation unchanged? If calculi form in the bile, some of its solids are given up to form them, and must therefore affect its properties, which might affect nutrition so as to cause diabetes mellitus, and the liver appear normal. The same principle to some extent applies in the effect of calculi in other organs. Bile decomposes in the capillaries when stasis occurs, and acts as a poison. Vision is affected from its lodgment in the vision center and in the capillary circulation of the retina.

Its abnormal presence in the fourth ventricle of the brain might cause sugar in the urine, the same as a wound does at this point in the animal.

The experimental effect on the dog with the biliary fistula, arresting the passage of bile to the digestion, simulates the character of diabetes mellitus, except the increase of urine and presence of sugar.

In conclusion, I ask pardon for any unscientific statements in connection with this case, but would be pleased to learn of any similar cases to this, and what pathological relations exist between the two consecutive lesions.

*December 4, 1888.*

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**Electric Prostration.**—"Several cases of this new malady are reported from Creusot, France. It affects workers under electric light. The light exceeds 100,000 candle power, and it appears that it is this excess of light, and not the heat, which produces the nervous symptoms. A painful sensation in the throat, face, and temples is first noticed, then the skin becomes coppery red, and irritation is felt about the eyes; much lacrymation ensues, and these symptoms then disappear, while the skin peels off in five days. The effects are comparable to those produced by walking over fresh snow in the sunlight, and may be regarded as a sort of 'sun-burning.'"—*Lancet.*

**Physiology of Uranium Salts.**—According to the "Lancet," "experiments recently made by Dr. R. H. Chittenden attest the harmfulness of uranium salts to healthy tissues. Uranium is an irritant poison tending to destroy the life of the intestinal and renal tissues; enteritis or acute catarrhal inflammation was easily induced by the administration of small doses of the salts of uranium. In toxic doses it causes absolute anuria; in smaller doses, merely acute parenchymatous nephritis; in minute doses it has a diuretic effect. Oxalate-of-lime crystals in the urine, and glycosuria, were constantly noted in cases of poisoning by uranium."

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## DELINEATIONS OF INSANITY BY THE INSANE.

At a meeting of the Section in Neurology of the New York Academy of Medicine, held December 14, 1888, two series of specimens of unique interest were presented, and comments thereon read by Dr. Frederick Peterson and Dr. William Noyes. The former read extracts from the autobiography of a religious paranoiac. The writer of this book, although he had died in an insane asylum and had had occasional attacks of violent mania, had been a person of unusual intellectual attainments. His style of composition was graphic and refined. The narrative was straightforward and continuous. The religious delusions became more marked in the later parts of the book, the composition of which had engaged several of the closing years of his life. This book, written in a distinct, graceful handwriting, was passed about for inspection.

The history of his life, and especially of his internal states of feeling, is both curious and startling. Very noticeable in his account is a certain delicacy and psychological accuracy with which he has depicted and analyzed his own mental maladies. He portrays clearly the growth of a morbid sensitiveness which made him shun contact and speech with his fellows. Their remarks on himself he was always listening for and brooding over. In time it became so that he translated any voices that he heard at a distance into facetious or contemptuous remarks about his own peculiarities. This scorn, expressed or imagined, besides causing him profound depression, also at times stung him to madness, and led to many plans for revenge, usually of a bloody sort, but these he was utterly unable to carry out. The beginnings and growth of other hypochondriacal delusions are described in a realistic and skillful manner. What is more remarkable, he even had at times "a conception of the sane and able man that he *might* have been towering up beside him, while he felt *himself* sinking deeper and deeper into egoism and impotency." He also readily comprehended insanity in other inmates of the asylum. Their delusions seemed quite amusing to him. In one instance, however, where fits of violent and abusive anger were the usual manifestation, he never conceived of the man as irresponsible in the matter, and hated him so wildly that nothing short of a murder would have done justice to his feelings.

Dr. Noyes presented numerous specimens of the work of an insane artist, comprising crayon sketches, water-color paintings, clay modelings, and decorated articles of clothing or personal belongings. In all of them a peculiarly morbid and fantastic character was manifest. This was particularly marked in the distortions which he invariably made in his representations of human faces. Some quite intricate and highly elaborated diagrams in water-colors were designed to illustrate the author's theological conceptions of the universe and God.

The articles of clothing or personal decoration embodied a fantastic idea as to a proper economy in utilizing any fragments of however widely differing origin—wish-bones, buttons, feathers, etc., such as he had found scattered about the grounds of the asylum. This artist had in earlier life been a man of brilliant social gifts, and had also had something of a career as an illustrator of books. He had always been known in New York, however, from the carelessness of his work in detail, as "the unfinished artist." His aversion to continuous application became increased with each year of his life.

Any thoughtful reader of these brief sketches will see how unmistakably the processes of the insane mind are exaggerations of what are scarcely more than peculiarities in men and women about us in ordinary life. It becomes more and more evident that insanity represents weakness of mental and moral structure; and that, whether with a view to restoring the balance of faculty or not, the only rational plan of dealing with insane people must be one which has in it no disrespect to the feelings of the patient. Both policy and the duty of a stronger nature to a weaker seem to require that the morbid susceptibility to being wounded by the contumely of his fellows, which is often so highly developed in the possessor of a "mind diseased," should be met with all gentleness and, if possible, even friendliness.

The same principle would also seem to be necessary in dealing with some classes of unfortunate or depraved people who are not confined in asylums.

## POST-MORTEM HÆMORRHAGE IN CASES OF DROWNING.

An article by M. Arnaudet (de Cormeilles), published in a recent number of "La Normandie médicale," is especially interesting from its bearing upon medical jurisprudence.

The author cites the case of a woman, aged fifty, who, on Friday night, July 27th, at eleven o'clock, was found drowned in a pool where she had been in the habit of washing clothes. She was seen for the last time at about eight o'clock; the submersion, therefore, might have continued for three hours.

On the evening of the accident the woman was intoxicated, and all the circumstances pointed to accidental death. Still, the authorities' attention was attracted to a somewhat remarkable fact. The concha of each ear was filled with bright-red, fluid blood which had also run down the neck on both sides—about a soup-spoonful in all. One would have pronounced it an arterial hæmorrhage coming from the auditory canal and the deep part of the ear, but, on wiping away the bloody surfaces with a piece of dry linen, it was apparent that the blood had proceeded from a number of little wounds, erosions of the skin, red, irregularly round, and varying in size from that of a grain of millet to that of a hemp-seed. They covered almost symmetrically the edge and partly the exterior and interior surfaces of the two auricles. Among the excoriations were seen pink ecchymoses of like dimensions. The middle of the forehead was the seat of similar lesions, only larger, some of them having a diameter equal to that of a silver twenty-centime piece. There was no blood. These wounds were evidently inflicted during life, or very soon after death.

The pool used for washing, a metre and a half broad and fifty centimetres deep, was fed by a little brook. It was partially filled with a fine, grayish slime; there were no brambles or snags anywhere about the place, but in the slime, and particularly in the current of the stream, were to be seen myriads of the crustaceans popularly known as fresh-water shrimp, one and two centimetres long. An assistant consented, at the author's request, to plunge his hand into the pool, and in a few moments it was literally covered with crustaceans. They tried to taste the morsel, and in doing so caused a very unpleasant pricking, itching sensation. Next, a piece of raw meat was hung in the water; more tender than the callous hand, it was speedily reduced to shreds. The author then proved his surmise to be correct that these little river pirates had inflicted the wounds. He examined the woman's clothing and found it swarming with crustaceans. Ecchymoses and erosions, like those already described, were observed on the right hip and on the left leg and thigh. At this last point the crustaceans were caught still feasting twenty hours after death.

Were the lesions inflicted during life or after death? The red surfaces pointed to a time when capillary circulation had not yet ceased and to the fact, in the author's opinion, that the woman had been attacked while still alive by the crustaceans. Blood issued from the ears. None was found on the forehead, hips, etc. In cases of drowning, the color of the skin is ordinarily pale and bloodless; certain regions, however, may be red and gorged with blood. Briand and Chauvé mention the auricle in this regard. During submersion, the water washed away the blood as fast as it issued from the ears; consequently, that found on examination in the concha of the ear must have collected there after the body had been removed from the water.

This case of post-mortem hæmorrhage explains the popular belief that the drowned sometimes bleed when taken from the water, but it is absurd to add that the phenomenon occurs only on the approach of a relative.

## *MINOR PARAGRAPHS.*

### THE ANTHROPOLOGICAL VALUE OF THE HYOID BONE.

In a recent number of the "American Anthropologist" Dr. J. L. Wortman says that the hyoid bone has never been studied from the anthropologist's point of view. Anatomists generally assign the co-ossification of the hyoid with the median piece to the middle period of life and the union of the lesser cornua to a much later period, although Meckel, supported by Henle and Hyrtl, holds that the five pieces rarely unite. Professor Virchow, in discussing a paper on that subject presented to the Berlin Congress of Americanists, stated that the elements of the hyoid never united except under pathological conditions. Professor Flower, on the contrary, had always found the greater cornua co-ossified with the body in persons at or beyond the middle period of life. Dr. Wortman ascribes this conflict of opinion to differences in the hyoid bones of the respective peoples in which it has been examined. He has been engaged for several months past in collecting data, and, while not yet able to draw final conclusions, is convinced that there are important differential characters to be found in the hyoid bones of some races at least.

### APARTMENT HOUSES FROM A SANITARY POINT OF VIEW.

The "Lancet" of December 29, 1888, calls attention to the risk involved in living in flats. While an ordinary householder has access to every part of the building in which he resides, and can easily discover and rectify any defective hygienic arrangements, the denizen of the flat is at the mercy of his fellow-lodgers. He may clean, ventilate, and disinfect his apartments, but if the inhabitant of the floor below does not go and do likewise, he must suffer the evil consequences of his neighbor's neglect. This fact is of especial importance in regard to the main drainage of the premises. If the landlord or janitor who has charge of the basement does not see that the main drain is both water-tight and so disconnected from the sewer as to admit of a free current of fresh air through its entire length, the whole house is apt to be filled with foul air from below upward. The danger arising from that source, already great, is increased from the multiple occupation which always occurs in the case of flats.

### PYRODINE.

In a recent number of the "British Medical Journal" we are warned against the free use of the new drug which has been introduced under the name of "pyrodine." It has undoubted temperature-reducing properties of a high order, but unfavorable toxic action interferes with its practical application. Pyrodine contains as its active agent acetylphenylhydrazin ($C_6H_5N_2H$, $C_2H_3O$), a crystalline powder, slightly soluble in water. According to Dr. Dreschfeld, of Manchester, pyrodine acts in the same manner as, but more powerfully than, antipyrine, acetanilide, and phenacetine. It has also been used with good effect in migraine and other forms of neuralgia, as well as in the lancinating pain of locomotor ataxia (Lépine). Great caution is required in its administration, because it is apt to produce jaundice, followed by anæmia and even grave symptoms due to hæmoglobinæmia. In exceptional cases, and where other antipyretics have failed, we may resort to pyrodine, but with the utmost reserve. Small doses only should be given, and at sufficiently long intervals to enable one to stop on observing the first indications of any toxic effects.

### ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 15, 1889:

| DISEASES. | Week ending Jan. 8. | | Week ending Jan. 15. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 22 | 7 | 14 | 4 |
| Scarlet fever | 341 | 52 | 295 | 50 |
| Cerebro-spinal meningitis | 4 | 3 | 4 | 1 |
| Measles | 552 | 23 | 352 | 20 |
| Diphtheria | 166 | 65 | 184 | 53 |

**The Health of New York City.**—During the four weeks ending Tuesday, January 15th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Health Department: Typhoid fever, 68 cases and 20 deaths; scarlet fever, 972 cases and 196 deaths;

cerebro-spinal meningitis, 18 cases and 11 deaths; measles, 1,576 cases and 80 deaths; diphtheria, 635 cases and 205 deaths.

**The Health of Kansas City, Mo.**—According to the Health Department's "Weekly Return" for the week ending January 12th there were 34 deaths, including 1 from entero-colitis, 1 from malarial fever, 1 from typho-malarial fever, 1 from marasmus, 1 from cerebro-spinal meningitis, 5 from pneumonia, and 1 from pleuro-pneumonia.

**The Hunt Memorial Hospital.**—Dr. J. H. Hunt, of Port Jervis, N. Y., has erected a hospital in that town, in memory of his father, the late Dr. Isaac S. Hunt. The building, which is a three-story brick structure, contains a ward in which are ten beds, eight rooms for private patients, three offices, an operating-room, a hall, a dining-room, and a kitchen. The hospital is intended for the reception of injured employees of the Erie Railroad and for the personal patients of Dr. Hunt. The sanitary arrangements and equipments of the building are all that could be desired for the comfort of patients. Miss Mary E. Sherman, a graduate of the Bellevue Hospital Training School for Nurses, will assume the duties of matron.

**St. Bartholomew's Hospital and Dispensary.**—This institution was incorporated in December, 1888, for the free treatment of diseases of the genito-urinary organs—venereal and non-venereal—and diseases of the skin. Dr. George A. Peters is president of the Board of Governors. The consulting staff consists of Dr. G. H. Fox, Dr. C. McBurney, and Dr. G. A. Peters. The visiting surgeons for diseases of the genito-urinary organs are Dr. C. T. Adams, Dr. E. B. Bronson, Dr. F. T. Brown, Dr. W. B. Clark, Dr. J. A. Fordyce, and Dr. F. J. Leviseur, and for diseases of the skin, Dr. G. T. Jackson, Dr. P. A. Morrow, and Dr. C. C. Ransom. It is announced that an excellent site has been found at No. 84 Carmine Street, and that the institution is to be opened for the reception of patients about the middle of the present month.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 6 to January 12, 1889:*

SHUFELDT, ROBERT W., Captain and Assistant Surgeon, will, by direction of the President, report in person to Brigadier-General Wesley Merritt, president of the Army Retiring Board at Fort Leavenworth, Kansas, for examination by the board. Par. 1, S. O. 4, A. G. O., Washington, January 5, 1889.

JOHNSON, R. W., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from duty at United States Military Academy, West Point, N. Y., and will report to the commanding officer at San Carlos, Arizona, for duty at that post. Par. 10, S. O. 7, A. G. O., Washington, January 9, 1889.

JOHNSON, RICHARD W., Captain and Assistant Surgeon, is granted leave of absence for fourteen days. Par. 1, S. O. 8, A. G. O., Washington, January 10, 1889.

PILCHER, JAMES E., Captain and Assistant Surgeon, will, by direction of the Secretary of War, repair from Fort Wood, New York Harbor, to Philadelphia, Pa., at such time as his services can be spared, for the purpose of giving instruction to the Hospital Corps of the First Brigade, National Guard of Pennsylvania. Par. 6, S. O. 8, A. G. O., Washington, January 10, 1889.

**Society Meetings for the Coming Week:**

MONDAY, *January 21st:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Medico-chirurgical Society of German Physicians; Hartford, Conn., City Medical Association.

TUESDAY, *January 22d:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Academy of Medicine (Section in Pædiatrics); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Medical Society of the County of Putnam (semi-annual), N. Y.

WEDNESDAY, *January 23d:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany, N. Y.

THURSDAY, *January 24th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private).

FRIDAY, *January 25th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *January 26th:* New York Medical and Surgical Society (private—annual).

# Proceedings of Societies.

## NEW YORK STATE MEDICAL ASSOCIATION.

*(Continued from vol. xlviii, page 468.)*

**The Address in Surgery.**—Dr. W. H. CARMALT, of New Haven, Conn., in this paper dealt with operations for carcinoma of the tongue. He considered the condition so miserable—from the dribbling saliva, the difficulty of swallowing, the fœtid breath, the attacks of partial suffocation, and the consciousness of there being no lasting relief obtainable—that removal of the tongue was always justifiable.

The operation for extirpation was now the only one accepted by all authorities. The immediate exciting cause of cancer of the tongue was the same which led to it in other parts of the body—namely, a slight but prolonged irritation, not sufficient to excite an inflammation, for that would throw out products which would be reparatory, but enough to overstimulate circulation and local nutritive processes. It belonged regularly to the later years of life and was more common in men on account of their taking less care of the mouth than women did. Rubbing the tongue on a jagged tooth, gnawing some tag that projected from its surface, and the irritation of a hot pipe-stem on the lip or tongue, were mentioned as typical causes.

The reader reviewed the different modes of operating for the removal of a cancerous tongue, which by their number alone indicated the difficulties which surgeons had been trying to overcome. He would speak of the three main difficulties or dangers that attended the operation which made the mortality so high and the whole procedure relatively so unsatisfactory. They were, briefly, hæmorrhage, the liability of causing septic pneumonia, and the tendency of the disease to recur either in the stump itself or in neighboring lymphatic glands.

Hæmorrhage was always a most troublesome feature in the operation done through the mouth. Ligation of vessels was difficult; some blood getting into the larynx caused suffocation, coughing, and perhaps, later on, septic pneumonia.

Ligation of the lingual arteries in the digastric triangle, although often a tedious operation, gave a clean, dry operation. Torsion of cut arteries was not much used in this country, although it had some advantages. Unless the surgeon had an assistant possessed of great skill and experience who understood just how far to etherize the patient, the manipulation of sponges, etc., he would advise that the trachea be opened and air and ether given by a tracheotomy-tube; that a tube be placed in the pharynx for feeding, and the pharynx then securely plugged with sticky iodoform gauze as made by Billroth. Absorbent dressings could then be used and kept in place till healthy granulations appeared.

He was opposed to the removal of the diseased masses by either slow ligation, the écraseur, or the galvano-cautery. The diseased glands were not reached by these methods. The galvano-cautery might do in a beginning fibroid cancer; the slough, however, was long in coming away, and was liable to give out septic matters.

Recurrence could only be avoided by complete removal of infiltrated tissue and glands, especially hard to be sure of in the rapid medullary growths. The presence of these traveling bastard epithelial cells could not be demonstrated in glands and lymph channels by touch alone, but appeared when the latter were laid open. After describing Whitehead's operation *via* the mouth, and many other operations in which the cheek or jaw was laid open or a submental incision made—all of them being untrustworthy because some remote superficial or deep glands were not reached—he took up the operation advised by Kocher, of Zurich, which he considered the only radical one. This consisted in ligation of the lingual arteries, plugging the fauces as already described, and extirpating the glands in the neck, then the deep glands placed along the internal maxillary, external carotid, and facial arteries. The facial had to be divided and tied to reach the deeper glands; then, the cheek being laid open, the tongue was cut away at its attachment to the hyoid bone. He did not think it safe to leave half of the tongue in any case; neither was half the tongue of much use to a patient. For cases which were too far advanced for operation he thought tracheotomy and feeding by a tube kept in place would mitigate the sufferings and inconveniences attached to this deplorable condition. The mouth could then be filled with iodoform gauze and other deodorizing preparations.

Dr. A. L. Carroll, of New Brighton, read a paper discussing the distribution of cases of cancer, which he showed were most numerous in proportion where population was most widely scattered, looking toward the view that cities had better hygienic conditions than the country. Earlier operations were possible in cities, and might explain the lesser mortality. The relative mortality of cancer was about 2·33 per cent.

**What are Neoplasmata, and what are the Characteristics which differentiate them from Blastemata, and these from Inflammatory Processes ?**—Dr. H. M. Biggs, of New York, discussed these questions in a paper which he read. He defined neoplasmata as circumscribed masses of newly formed tissue, devoid of function, and tending to persist or increase in size independently of the condition of nutrition of the organism from which they arose. He distinguished blastemata, or infectious granulomata, as infectious inflammatory new formations. showing no tendency to persist or increase beyond a certain size, and not usually passing beyond the stage of granulation tissue. Their formation was a conservative process, and tended to limit the multiplication of the organisms present. Their differentiation was evident from the foregoing definition. They differed from inflammatory processes by their occurrence in nodules, by the constant presence of micro-organisms, by their failure to pass on to the fibroblast stage of development, and by their early tendency to degeneration; also by their local infectivity and tendency to reproduction in distant parts. As to the question relating to the advantages of naming and arranging the neoplasmata according to their histogenesis, he thought that simplicity, exactness, and uniformity were all best obtained by a nomenclature on the anatomical basis. As to the question, "What is the value of the anatomical basis to the clinician when the question of malignity arises?" the speaker thought it arose from the unique fact that in the case of neoplasmata the anatomical name of a tumor conveyed an approximate idea of the degree of malignity, because this bore a constant inverse ratio to the degree of development, as judged by the physiological type of the tissue reproduced in it.

As to the question, "What are the objections to the grouping of neoplasmata in accordance with their benignity or malignity?" he believed it was enough that there was no sharp distinction possible between them on that basis. There was a gradual ascent from the most malignant neoplasmata to those which were quite benign. In the case of connective tissue, every stage of development was represented, from the embryonic connective tissue reproduced in the round-cell sarcoma—one of the most malignant of the neoplasms—to the fully developed fibrous tissue of the hard fibroma, which was quite benign.

Another cause of confusion was that entirely benign tumors might cause death, because by their position they interfered with some vital function. Yet such growths were apt to be called malignant simply because death had resulted. A third objection was that in such a classification we grouped together neoplasmata that were essentially quite different in origin, structure, and clinical significance.

There had been a tendency to apply the term malignant to whatever was proved to be cancer; whereas some forms of cancer were far from being fatal. On the other hand, some of the most malignant of the neoplasmata were not cancerous.

Dr. C. B. Nancrede, of Philadelphia, defined histological malignity as consisting in an invasion of tissue elements by neighboring elements of another sort, the invading elements being without function and incapable of developing into a stable tissue. The necrotic process was due to strangulation or blocking, or rupture of the blood-vessels which supplied the parts. The causes were entirely mechanical. As to whether cancer was ever cured, he preferred to decide the question on *a priori* grounds, judging from the nature of the growth in any case as respected its liability to be carried inward. Thus squamous epithelioma was readily cured by a timely excision, because, from the large size of the cells, their immobility from lack of fluids, and their uninterrupted blood-supply, they were mechanically ill adapted to be carried into the glands. He believed that for such cancers as had not as yet involved neighboring glands a cure was possible. When it could be shown that after excision a given form of cancer recurred, but rarely after three years' time had elapsed, and only very rarely after five years, he thought it fair to assume from analogy, whenever we removed such a cancer, that if there was no recurrence when four or five years had gone by, that cancer was in all probability cured. In all such cases, where there had been a recurrence after a great many years, he considered that the disease had arisen afresh owing to a tendency inherent in the individual, together with the continuance of some exciting cause.

Dr. Nathan Jacobson, of Syracuse, discussed the question as to what constituted the malignity of tumors histologically and clinically. The most marked characteristic of a malignant growth was its power of invading with infectious foreign material the surrounding tissue elements and glands, a power which suggested to the mind the action of pathological micro-organisms. Constant bacilli had been found by some investigators, but it had not yet been possible to infect animals with the virus and get a reproduction of the lesion. Histologically, those tumors were malignant which presented tissue with a rich but immature cell structure, atypically arranged and found nowhere else in the body.

Everything looked to their local origin. The kind of epithelium that was present in the site from which the tumor grew, whether squamous, spheroidal, or cylindrical, was the same as that which we found multiplying in the tumor. It was in the same way that the connective-tissue of sarcoma varied with the location.

In the clinical study of a tumor it was to be remembered that sarcoma occurred when connective-tissue growth was most active—that is, in childhood. In aged persons, on the other hand, the vitality of the connective tissue was reduced, its power of resistance to the invasion of epithelial tumors was lessened, and carcinoma was oftener encountered.

Growing as they did from tissues of fixed and determined elements, each form of primary malignant disease was found only in certain tissues or structures, and so even in definite locations. Thus, primary malignant disease of bone was sure to be sarcomatous.

Malignant tumors could not be said to be due in the ordinary sense to constitutional taint. We encountered them at points where two kinds of epithelium met, at constricted points in canals, and in places particularly prone to irritation. Were they of constitutional origin, we should expect them to crop out simultaneously from different parts of the body. Heredity was relatively not an important factor in diagnosis. The proportion of cases in which there was a parental history was comparatively insignificant.

Their diaphanous property sometimes aided in diagnosis, though some other varieties of tumors which were mentioned might also have it. Recurrence of the growth in the stump or in surrounding glands after removal was the last clinical feature of a malignant tumor and distinguished them from other recurring growths. The speaker then discussed laryngeal tumors, both benign and malignant, especially with reference to the character of the process which had lately ended the life of the German emperor. He concluded that, owing to the danger of converting a benign into a malignant growth by the irritation caused by the removal of a portion of it for microscopical examination, diagnosis should be made with the laryngeal mirror only. The sputa told nothing conclusive.

As to the mechanism of the necrotic process, he agreed with the previous speakers in making it a strangulation of the vascular supply in various ways, and observed that colloid, mucoid, cheesy, and fatty degenerations, or cicatricial contraction, were also possible terminations of the process. The speaker then discussed the curability of malignant tumors, and believed it ought sometimes to be accomplished by excision under certain conditions depending on the rate of growth, the stage of growth, the seat of the tumor, its exent and complications, and the dangers incidental to operation. He distinguished second appearances of the disease from recurrences, believing that both occurred.

Dr. Carmalt discussed the question which various speakers had raised as to there being a constitutional taint which either caused or made liable to cancer. He believed there must be such a tendency and that it might be inherited. If there were not, why did not all who underwent the same prolonged irritation of some particular part have the malignant tumor development at that point also? We knew the great majority of these did not develop cancer. Those who did were individuals who at these points of irritation had not for some reason grown their tissues to full maturity. Their stability of structure was slight and their resistance to invasion readily overcome. A significant fact bearing on this matter of constitutional tendency was that erysipelas sometimes caused the absorption and disappearance of a sarcoma. He had seen one such case. He thought we had repeated developments of tumors in people so constituted as well as recurrences of partly removed growths.

**What is the Rationale of the Recurrence of Excised Neoplasmata in Distant Parts or in the Viscera? What is the Explanation of the Tendency to involve Neighboring Glands?**—Dr. J. D. Bryant, of New York, read a paper discussing these questions (see vol. xlviii, page 677).

Dr. E. M. Moore, of Rochester, continued the discussion. He was not satisfied with the theory that carcinoma spread chiefly by the lymphatics. The infectious elements seemed to him to have a penetrative and diffusive power more like amœboid transmigration. The spread of a cancer reminded him of the pollen shed broadcast by some trees in the spring time, and covering all the surrounding land. He had hoped as the discussion went on that some one would report that some German had discovered a microbe to which cancer was due, but in this he had been disappointed. Taking up the question of recurrence and the chances of cure by operation, the speaker related the history of a case where a young man had an osteo-sarcoma develop in the bones of his hand. The forearm was amputated midway between wrist and elbow. The disease had shortly reappeared in the stump. The whole forearm was then removed at the elbow; but the malignant process soon after showed itself above the elbow. Without much hope of saving life, he had, at the request of the patient, amputated the arm at the shoulder joint, telling him no further aid could be given. In a short time the scapula and clavicle showed that the process had spread to them and was taking as virulent a form as ever. Solely because the patient insisted upon another operation, the whole scapula was removed (and that for the first time in this country) and part of the clavicle. To his astonishment, the disease never appeared again and the young man continued well.

The speaker had repeatedly seen extirpations of the breast where the patients lived for years afterward without recurrence and died of other diseases. One fact he regarded as of great moment in making a prognosis as to the likelihood of recurrence, and in deciding on the advisability of operation. It was that cancer and diabetes alone of all diseases were less dangerous in elderly people. The older the patient, the less likely was a patient to die of a cancer or was it to recur if removed. Instances were given where six, eight, thirteen, and seventeen years of life had succeeded removal of the breast, during which time no recurrence had taken place. On the other hand, he recalled the case of a man in whom an epithelioma of the lip had returned sixteen years after having been extirpated, and in the exact point on the lower lip from which it had first been removed. On being removed a second time by a wide excision, it had returned in the face in an exaggerated and virulent form, eating away everything and causing a horrible death.

The President, speaking in regard to the heredity of cancer, quoted the opinion of Sir James Paget to the effect that it was a possibility of some importance. He instanced a family where four successive generations had suffered from the disease, which in one generation affected two brothers, in another three brothers. As regarded metastasis, he had seen a case where, seven years after removal of an epithelioma of the lip, cancer of the stomach had appeared and proved fatal.

Dr. Nancrede related an instance in which, after nineteen removals of carcinomatous growths, thirteen years of life succeeded without further appearance of the disease. As illustrating a possible reason for an apparently immediate return in the scars left from previous removals of cancer, he related instances where an early and close examination of the later growth showed that it was starting from new centers of infection not identical with the scar, but only a very small fraction of an inch distant from it. With regard to heredity, if cancer were inherited, why should it not appear in the offspring in infancy or childhood instead of in the sixtieth year, as so often happened?

Dr. Gouley closed the discussion. His remarks in full were published in vol. xlviii, page 680, of this Journal.

## NEW YORK PATHOLOGICAL SOCIETY.

*Meeting of November 14, 1888.*

The President, Dr. W. P. Northrup, in the Chair.

**Ruptures of the Aorta.**—Dr. H. M. Biggs presented a specimen showing a ragged rupture of the aorta three fourths of an inch long and just above the semilunar valves. The pericardium had been filled with blood. The aorta was not changed in appearance except a general thinning.

A second specimen was of a dissecting aneurysm of the arch of the aorta of large size which had not ruptured, although apparently the patient had died of it. He had died while at stool. Perhaps it had made a pressure on the trachea which had suddenly cut him off. There was much hypertrophy of the left ventricle, which was rare in cases of aneurysm.

A third specimen was of a pin-hole perforation through the aorta into the pericardium, which had been followed by death after three quarters of an hour. Such a prolonged death was very rare. The aorta showed acute endarteritis. He would remark on this lesion of aortic rupture that it must be very common and would be known to be so if more autopsies were held in both the very poor and the well-to-do classes, especially where death occurred with serious disease preceding. He had met with thirty-nine cases within a year and a half.

Dr. W. Mendelson remarked on the second of Dr. Biggs's cases, where a man had died of an aneurysm without its having ruptured, that death might have been due to an arrested heart action through a sudden paralysis of the pneumogastric nerve. This paralysis, he thought, might have been brought about by a reflex irritation due to pressure of the aneurysm on the laryngeal nerves.

Dr. T. M. Prudden compared it to the instant death which often followed the lodgment of a foreign body in the trachea. Often children (to whom this accident usually occurred) dropped dead without the least struggling.

Dr. Biggs spoke of similar cases, especially where the body, a button or a screw, rested on the vocal cords.

**Volvulus of the Large Intestine.**—Dr. Frank Ferguson presented the colon taken from a case in which the strangulated condition was not recognized during life. The patient had suffered from vomiting and cramps with a tense and painful abdomen. No symptoms had been observed which, in the general condition the patient was then in, justified surgical interference. However, the autopsy had revealed that the lower colon had crept up behind some of the mesenteric folds and become twisted on itself. A very long mesocolon had allowed the colon an extraordinary range.

**Cirrhosis of the Liver from Portal Thrombus.**—Dr. Ferguson also presented a liver showing scattered areas of cirrhosis which corresponded to thrombosed branches of the portal vein. The other viscera were normal, and it was concluded that the portal thrombi were directly causative of cirrhosis in this instance.

**Self-incasement of the Small Intestine.** — Dr. J. S. Thacher showed an anomalous condition of the small intestine taken from a patient who died after several years of gastric disturbances and impaired health, but without definite symptoms. The whole small intestine was found after death crowded into a white membranous bag, with a small opening through which it could be removed and returned freely. It had probably begun by a knuckle of the intestine pressing against the mesentery and making a pouch, into which the rest of the gut followed, the membrane meanwhile enlarging and thickening.

**The Origin of Abscess of the Liver.**—Dr. Thacher also showed the lungs, liver, and colon of a patient who had died of hepatic abscess. The right lung had become infected and was nearly wasted away, and the glands of the colon were ulcerated. There were reasons for believing that the process in the glands was older than that in the liver or lung, thus pointing to morbid conditions in the intestine, due probably to fermenting food, as the primary cause of hepatic abscess.

Dr. Biggs questioned if autopsies after death from abscess of the liver ever failed to show diseased glands in the colon.

Dr. Thacher replied that he had made one such autopsy.

*Meeting of November 28, 1888.*

The President, Dr. W. P. Northrup, in the Chair.

**Tuberculosis of the Genito-urinary Tract.**—Dr. R. Van Sanfordt presented specimens which apparently showed a primary tuberculosis of the prostate and epididymis.

The President raised the question of the initial location of the process in such cases.

Dr. Mendelson believed the process began in the lungs, where it remained almost latent, while, on the other hand, an active development went on after the lodgment of bacilli in the genito-urinary organs *via* the kidney. The reason of this metastasis was always mysterious. But he believed primary infection of the genital organs rare. Either the lungs or the intestinal canal were more likely to receive the virus.

The President took the opposite view—that primary infection of the prostate, epididymis, or testis was fairly common. It was seen in children suffering from congenital tuberculosis that the kidney was one of the last viscera to become involved, only becoming so, in fact, when the peritonæum and lower surface of the diaphragm became studded with tubercles. This made infection of the genital organs through the kidney from a slight pulmonary deposit very unlikely.

Dr. B. F. Curtis instanced cases in which castration had prevented the spread of the process in the testis to the kidney. It seemed to him that the infection traveled first to the prostate and thence to the kidney, and not up the urethra, but going through the blood-vessels.

Dr. Van Sanfordt remarked that septic processes reached the kidney from operations even on the cervix, causing surgical kidney. Tubercle bacilli might travel by the same route, whatever it was, from any of the genito-urinary organs.

**Cardiac Abscess.**—Dr. H. P. Loomis presented the heart of a patient who had died of pneumonia in which were found two small abscesses. When a child she had had scarlet fever, and in later years malarial disease. In her final sickness she had chill, sweat, and fever, the temperature being 105° to 106° F. all the time. The autopsy showed, besides pneumonia, a spleen much enlarged, diffuse nephritis, ureters, tubes, and ovaries diseased, a syphilitic chancre of the cervix, and pyosalpinx. The nodules in the heart had a necrotic center, surrounded by brown cells. No tubercular deposits or gummata were found. The diseased ovary seemed the only cause of cardiac abscess, if it were that. Infarction seemed unlikely, because of the absence of surrounding connective tissue.

Dr. Mendelson supposed the abscesses might be due to infection by the bacillus of the pneumonia (the pneumococcus of Fränkel).

Dr. Van Sanfordt remarked that, while the pneumococcus sometimes caused endocarditis, the lesion in this case showed signs of age. He thought it more likely to be a gumma.

The President suggested acute endocarditis which had gone on to abscesses.

**Multiple Suppurative Arthritis.**—Dr. T. H. Myers showed the carpal and other joints of a child which had died at the age of two months, in whom every joint in the body was found filled with pus. Syphilis had been suspected, but none had been found in either parent. The mother had acute rheumatism previous to the birth of the child, but this disease was very rare in young infants. Syphilis affected usually but a few of the joints, and gonorrhœa the same. It seemed to have been a pyæmia coming spontaneously during fœtal life, without any metastatic abscesses. The umbilical cord had always been healthy.

**Death from Aneurysm without Rupture.**—Dr. A. H. Ely showed a large aneurysm of the arch of the aorta removed from a patient who had died suddenly upon falling out of bed, and discussed the causes of sudden heart-stoppage. He concluded that it could only be caused in a heart free of disease by paralysis of its innervation from reflex irritation or shock.

Dr. John Messenger instanced a case where an enormous aneurysm of the aorta had produced death, by very slow degrees, after years of suffering. It was found to be adherent to the sternum and to the vertebræ, the lung was compressed, and the recurrent laryngeal nerves were flattened out to the breadth of the hand.

**Interlobular Emphysema in Infancy.**—The President presented a specimen taken from a child of five months that had died of broncho-pneumonia, showing this rare secondary affection.

**Necrosis of the Lung in Pleuro-pneumonia.**—The President also showed a lung portions of which were necrosed, the patient having had cerebro-spinal meningitis, complicated with pleuro-pneumonia. The bronchi also were dilated and contained pus and fibrin, all the changes being apparently part of the general inflammation.

*Meeting of December 11, 1888.*

The President, Dr. W. P. Northrup, in the Chair.

**Tricuspid Stenosis.**—Dr. J. S. Thacher showed a heart in which this rare lesion was developed together with disease of all the other valves, apparently produced by scarlet fever in childhood, the patient being twenty-nine at the time of death. Œdema and ascites had developed toward the later weeks of life. There were palpitation and congestion of the face and the heart impulse was irregular, heaving, and diffused. A presystolic mitral and a systolic aortic murmur had been heard constantly during her sickness.

Dr. Mendelson thought the case bore out the old view that epilepsy was caused by a spasmodic contraction of the cerebral blood-vessels. The volume of the brain would thus be greatly diminished.

**Addison's Disease.**—Dr. Eugene Hodenpyle presented specimens showing the lesions of Addison's disease. The patient had died at twenty-three. When fifteen years old she had had a tubercular gathering in her fingers and a severe attack of fever with delirium and loss of flesh. Five years before her death she had begun to lose flesh and strength, the skin grew darker in color, and she became liable to periods of stupor and sleepiness; also to attacks of "biliousness" with headache, nausea, and vomiting, pain and tenderness of the abdomen, and constipation and diarrhœa alternating. When admitted to the hospital it was found that during these attacks the skin became colored a deeper brown, and nearly black about the vulva and breasts. The pigmentation also extended to the mucous membranes. She died comatose, during an attack of unusual severity. The autopsy showed complete cheesy degeneration of the supra-renal capsules, which were of three times their normal size, and caseous and calcific changes in the cervical lymphatic glands. The liver was fatty, the spleen was enlarged, the thyreoid gland and kidneys were infiltrated with cells. No tubercle bacilli were found, although they might once have been present. Dr. Osler, of Philadelphia, had found them several times in Addison's disease. The semilunar ganglia were not involved.

**Gout in the Hog.**—Dr. A. H. Ely presented the kidneys of a hog in which the proper tissue was entirely replaced by retention cysts, both organs being of great size.

Dr. Mendelson remarked that gout in the hog was not uncommon, and resembled the disease as it occurred in man. Crystals of a substance termed by Virchow *uanine* were found in the joints and liver, and were sometimes mistaken for trichinæ.

**Carcinoma of the Pylorus.**—Dr. H. P. Loomis presented a greatly distended stomach measuring twenty-nine inches along its greater curvature, and holding three quarts of fluid. At its pyloric orifice was a small nodule of dense tissue which almost completely closed its lumen. The intestines were wasted. He believed the condition often occurred in private practice, where no autopsies were usually obtainable. The patient in this case had suffered from dyspepsia for a number of years before he developed a condition which persisted until his death from starvation. Every few days he had an attack of persistent vomiting after eating, and raised a quantity of partly digested food mixed with green slime. After this his appetite would return. He lost flesh rapidly, and the abdomen became sunken in while the stomach was evidently enlarged. Washing out the stomach had given no lasting relief. The free hydrochloric-acid test had failed to show carcinoma. No cachexia or tumor appeared. The case could probably have been cured by resection of the pylorus.

**Carcinomatous Degeneration of the Ovaries.**—Dr. M. A. D. Jones presented a series of specimens showing fibroid degeneration of the uterus and appendages, including several in which a long-existing disease of the tubes had ended in oophoritis followed by abscess and degeneration of the ovary of a clearly carcinomatous character. The patients, previous to the removal of the diseased organs, had suffered from great pain on standing, and been greatly emaciated and very miserable. Of fifty-six instances where she had removed diseased ovaries, in nine the growth proved to be a species of epithelioma succeeding to an old oophoritis.

**A Double-faced Monstrosity.**—Dr. H. J. Boldt presented a head which had no body attached, and on either side of which a partial development of features had taken place. It had immediately followed the birth of a normal child. No such case had ever been recorded before.

**Epilepsy from a Frontal Lesion.**—Dr. W. A. Hume presented a portion of frontal bone showing loss of bone-substance in unusual amount, and a section of the brain through the subjacent anterior lobes, together with a written account of the case. The patient had received the injury in 1881, when twenty-three years old, from a boiler explosion. An oval area in the forehead, measuring two inches and two thirds in width by an inch in height, had been broken into fine fragments and forcibly driven in against the brain, lacerating the membranes and a portion of the right anterior lobe. The fragments had been removed and the wound had healed over. The opening in the cranium left was situated in the median line just above the orbits and involved the left orbital plate.

Afterward, from pressure of the brain, ulcerations appeared in the line of union, which shortly gave way entirely. The brain protruded through the wound, completely filling the opening in the bone, and had to be returned by compresses and bandages. This time the wound healed by granulation. Curiously enough, up to this point, from the moment of injury, there had been no cerebral symptoms beyond a little delirium and slight increase of temperature, and none occurred until eight months after the injury. Then an attack of epilepsy occurred, and thereafter recurred at intervals of eighteen months. The spasms were general, never unilateral. At the very beginning of an attack some one group of muscles might be the first to become rigid, but the convulsion so soon became general that this had never been observed.

Between his attacks the skin covering the brain had been seen to recede and advance with each pulsation, but during his seizures all pulsation had ceased, and the skin was firmly drawn back through the bone-opening. As consciousness returned the pulsations became more and more pronounced, and the skin bulged a little beyond the surrounding integument. Ordinarily, when either standing or lying, it was slightly sunken. Three months before his death (in November, 1888) convulsions had become more frequent and much more violent, occurring about once a week, with two or three attacks at a time; in the last week they had been nightly, and in the last twenty-four hours there had been sixty of them. During all these years he had seldom had headache, and his mind was unimpaired till just before the end.

At the autopsy firm adhesions were found between the skin, membranes, and brain. The dura had not reformed over a portion of the right lobe, and the pia over the frontal portion of the right anterior lobe was entirely obliterated. The frontal portion of each anterior lobe was softened and disorganized, but more on the right. Some had thought this degeneration due to loss of the integrity of the pia. The membranes in places had seemed to Dr. E. C. Spitzka (who made a microscopical examination) to be drawn into and fused with the cerebral substance; in other places between the two was a trabecular tissue covering an irregular cavity. The gyri surrounding the cicatrix were puckered in toward it in a radiating manner. Sections showed that the white matter underlying the affected gray substance was also affected nearly as far back as the caudate nucleus. The centers or "cores" of all three frontal gyri were converted into a spongy tissue, such as occurred in rarefying encephalitis, its meshes following the course of the nerve-fibers. The projecting ends of two arcuate fasciculi showed distinct fibrillation. Unless secondary degenerations were found, the reader thought the epileptic attacks must have been due to reflex irritation conveyed in some way to the motor tracts. He was not aware of any motor tract situated in the parts of the brain which had been found diseased. There might have been fibers connecting with the motor area in the underlying white substance which were either diseased or conveyed the irritation from other affected parts.

*Meeting of December 26, 1888.*

The President, Dr. W. P. NORTHRUP, in the Chair.

**Congenital Micromelia.**—Dr. A. H. ELY presented, as a specimen of arrested evolution, the body of an infant apparently born at full term and well grown. Its parents were Polish Jews; it had been brought to Bellevue Hospital. No history had been obtained. The deformity consisted in extreme shortness of the upper and lower extremities. The arms being brought together across the chest, the fingers barely touched. The legs were bowed outward in an exaggerated manner, the feet being turned inward so that when erected the infant stood on the outer sides of its feet. The bones were of normal thickness and the limbs thick and well developed. The thumbs and great toes resembled those of certain apes in being turned to nearly a right angle with the other digits and set some distance back. This disposition in the ape was one which facilitated climbing and grasping limbs of trees. It seemed a typical case of reversion to a lower type.

**The Bronchial Glands in General Tuberculosis.**—Dr. L. EMMETT HOLT presented three specimens showing enlarged bronchial glands, in two of which ulceration and perforation had taken place. Two of the cases gave physical signs by which the condition of the glands had been diagnosticated during life. In the first case a spot of the size of a silver dollar had been found close to the spine on the right side where there was marked dullness and also exaggerated tubular breathing. The temperature had remained high, with symptoms of general tuberculosis, for only a week previous to death. At the autopsy all the viscera were filled with tubercular deposits, some in caseous degeneration. A large mass of diseased bronchial glands was found about the right bronchus, and a perforation of the bronchus half an inch from the bifurcation communicating with one of them. In the second case general symptoms presented for only twelve days previous to death, the temperature ranging between 101·3° and 102°, and only once reaching 103°. Five days before death cerebral symptoms had developed, and signs of consolidation in the right lung, in addition to the usual symptoms of tubercular meningitis with right facial paralysis, and partial paralysis of an arm and a leg. In the right intrascapular region the same signs were present as in the first case. There were occasional convulsive movements, but the child died comatose. The autopsy showed tubercular meningitis, with lesions most marked along the left Sylvian fissure, thrombosis of the left middle cerebral artery, and an area of red softening in the cerebral substance. Cheesy nodules were scattered throughout the lungs and other viscera. The bronchial glands formed a large cheesy mass surrounding the right bronchus. Near the bifurcation of the trachea was a small perforation due to ulceration of a tubercular deposit in the bronchial wall.

In the third case, which also presented enlarged bronchial glands and general tuberculosis, there had been few symptoms except gradual wasting without much fever. The condition of the glands had not been diagnosticated. For nearly two months before death there had been almost continuous opisthotonos, which was at times very marked. At the autopsy general tuberculosis was found but without any involvement of the brain or cord, so that no explanation was afforded as to the cause of the opisthotonos. Perhaps the cheesy degeneration had been present in the glands of the neck in a way to cause reflex spasm through irritation of the spinal accessory nerve.

**Laryngeal Diphtheria without Loss of Voice.**—Dr. HOLT also reported a fatal case of diphtheria, and exhibited the lungs, larynx, and trachea. There had been no loss of voice, no laryngeal dyspnœa, and nothing to lead one to suspect croup, in spite of a false membrane which extended over the epiglottis, larynx, and upper trachea. The membrane covering the cords and lower part of the larynx was thin and not very adherent. In the trachea it was loose. A singular feature in this case was that while no membrane was found in the lower trachea nor large bronchi, at the third or fourth subdivision it reappeared in abundance, but was present in the small bronchi only upon the right side. The child died of broncho-pneumonia on the sixth day.

The PRESIDENT remarked in regard to the third of Dr. Holt's cases, that he had seen opisthotonos developed in cases of marasmus where it had been supposed due to tubercular meningitis of the brain and cord, but where the autopsy had revealed no lesion in any tissue except gastro intestinal catarrh. In regard to the fourth case, he would mention that he had recently removed a larynx from a child dead of diphtheria in which its whole interior, including the vocal cords, was thickly coated with a white diphtheritic deposit, while yet during life the child had presented no symptom of its presence, either by dyspnœa, cough, or altered voice.

# Reports on the Progress of Medicine.

## GENERAL MEDICINE.

By H. N. VINEBERG, M. D.

**The Cause of Malarial Disease.**—Tommasi-Crudeli ("Deut. med. Woch."; "Medical Chronicle," February, 1888) thought eight years ago that he had discovered the cause of malaria in a bacillus-shaped schizomyces. This germ, he believed, was widely spread on the surface of the ground, and, under the surface, had the power of remaining for a long time inert, and of at length waking to life and being reproduced when exposed to summer heat, a moderate amount of moisture, and direct contact with the atmosphere. For the past eight years, however, there has been great confusion of ideas on the subject. One observer found the schizomycetes in the atmosphere, another found them in the soil of malarial regions, while other observers found them in the blood of fever patients. It was chiefly with reference to the last observation that differences of opinion arose. The hyaline mass found in the blood of fever patients, and which Laverau and Richards named *plasmodium malariæ*, Tommasi-Crudeli considered was simply a degeneration of the red corpuscles—an effect, not a cause, of the malarial infection. The hyaline mass finally splits up into rosettes or discs—the segmentation of Golgi—which are converted into a granular detritus and finally scattered through the plasma. In various diseases, frequently in fevers, such as scarlet fever and typhus, the same process occurs. It occurs also in progressive anæmia. What occasions it in malarial disease?

Dr. Bernardo Schiavuzzi, of Pola, has shown experimentally that the so-called plasmodium of malaria in the red blood-corpuscles of rabbits follows an infection which can be produced in these animals by inoculating them with the pure cultivation of a bacillus found in the malarial atmosphere of Istria. Schiavuzzi affirms that these organisms were always discoverable in the air of malarial regions, and never met with in non-malarial districts, and maintains that the bacillus is identical with that discovered by our author and Klebs in 1879. Strangely enough, Marchiafavu and Celli, hunting for bacilli in the air of the Pontine marshes, in the summer of 1885, found none. Our author attributes this unsatisfactory result to their using an imperfect and immovable apparatus. Schiavuzzi used Koch's appliances and other movable aspirations. The important practical point is to examine the atmosphere in the proper places and at times when the malarial poison is the strongest.

**Subcutaneous Injection of Salt Solution in Cardiac Weakness.**—Rosenbusch ("Ctrlbl. f. klin. Med.," 1888, No. 6) recommends that the salt solution be injected deep into the subcutaneous tissues of the selected part with a Pravaz syringe. Resorption takes place in from three to five minutes. Where a large quantity of the solution is indicated, Cantani's apparatus is used. Apart from moderate pain when a concentrated solution is employed, and a temporary redness of the skin when the injection is made superficially, no untoward effects occur. The effect in general is as follows: In from three to five minutes after injecting from 20 to 30 grammes (ʒ v to ʒ vijss.) of a six-per-cent. solution, the pulse becomes markedly slower and the vessels become more tense. This effect increases for thirty minutes, then usually continues for several hours. The favorable results are illustrated by the histories of several cases, among which are one case of intense anæmia following repeated hæmatemesis, one case of acute gastro-enteritis attended with collapse, one case of typhoid fever with heart dilatation, two cases of pneumonia, etc.

On the ground of his personal experience, the author lays down the following indications: (1) In sudden collapse, from 20 to 30 grammes (ʒ iv to ʒ vijss.) of a six-per-cent solution. (2) In heart weakness in the course of any acute illness, the foregoing quantity to be administered at one time and afterward 5 grammes (ʒ j½) daily. (3) In acute gastro-enteritis and debility following vomiting and diarrhœa. (4) In hæmorrhages from the lungs, stomach, and bowels. (5) In cardiac debility in the course of various chronic diseases and cachectic conditions.

**Alimentation with Peptone and Egg Enemata.** — C. A. Ewald (*ibid.*) has made several experiments on animals and healthy human beings regarding the resorptive power of the rectum. He extended his experiments also to three cases of disease. The amount of nitrogen in the nourishment was accurately ascertained, as was also the amount in the fæces and in the urine. As a practical result of these experiments, it was found that the rectal mucous membrane had the power of absorbing prepared and non-prepared egg albumin better than it could variously prepared peptones. Ewald's results contradict those obtained by Voit, Bauer, and Eichhorst, in which the egg albumin became absorbed only when chloride of sodium was added to it.

Regarding egg enemata, it is advisable that the quantity should not exceed a fourth of a litre (10 oz.), and that several should be given during the day. The nutrient enemata should always be preceded by a cleansing enema of warm water, and it is always better to wait for an hour after this before beginning with the rectal alimentation. In cases of great irritation of the bowel it is well to add a few drops of laudanum to each enema. It is not advisable to introduce into the rectum a pouch filled with air or water in order to retain the injected material, as that would only increase the irritation of the rectum.

**The Treatment of Typhoid Fever.**—Ziemssen (*ibid.*) attributes the lowered mortality of typhoid fever within the past few years to improved therapeutics. A few only of the more important features of his very extensive and scientific paper can be here given. The patient's room should be capacious, quiet, and well ventilated. Water-pillows should be used, and, when possible, a second bed. The author is in favor of easily digested albuminates during the fever. Beef-juice extracted from fresh beef is the most suitable, and of this the patient should have 150 to 200 grammes (5 to 6½ oz.) in twenty-four hours. Regarding other forms of nutriment, the author follows the prevailing methods. Gelatin is often given in form of calves'-foot jelly with wine. The author gives but few medicines, and these only when specially indicated. Calomel, he thinks, has a decidedly beneficial effect when given at the right time—that is, within the first five days of the illness. He gives grs. vijss. three times within two hours. Strong emphasis is laid upon his method, which is so well known, of reducing the temperature by graduated cold baths. He speaks warmly of antipyrine as an antipyretic, of which he administers 5 grammes (grs. lxxv), in three divided, hourly doses, beginning the administration after 6 P. M. Thalline and acetanilide receive praise from him, but he condemns quinine, because it is attended with untoward effects—such as noises in the ears and an indescribable sensation all over the body. Kairin and salicylate of sodium as antipyretics he considers antiquated. In slight cerebral symptoms an ice-bag should be applied to the head, but not continuously; in severe cerebral symptoms, graduated baths, with cold affusions, are indispensable. Insomnia and restlessness are best combated by an injection of morphine. A tendency to cardiac weakness is best met by excitants, the best of which are camphor and wine, champagne and brandy. Severe diarrhœa is best treated with starch and opium enemata. Intestinal hæmorrhages call for ice-bags on the abdomen, and subsequently for ice-water enemata, which act reflexly. The intestinal hæmorrhages which occur between the fourth and sixth weeks offer a much worse prognosis than those that occur during the second and third weeks. Bed-sores can be avoided by care, cleanliness, cold-water treatment, and a water-pillow.

During convalescence great care must be exercised regarding the diet. For five days, at least, after the non-febrile period has set in the diet should continue to be of a liquid nature. After this it may be given in a semi-solid form for a few days, and then solid food may be cautiously given. The patient should keep in his bed for fourteen days, even after a mild attack, and for three or four weeks after a severe one.

**Acute Infectious Phlegmon of the Pharynx.**—Senator ("Ctrlbl. f. klin. Med.," 1888, No. 9) has seen four cases of this affection, and he remarks that it is as yet very little known. The clinical features were acute fever, the temperature undergoing moderate elevation only, early pain in the pharynx and pain on swallowing, laryngeal symptoms in the form of hoarseness, and dyspnœa. In a short time cerebral disturbances were added, and death occurred shortly after without any marked changes of the internal organs. The most constant pathological process found after death was a diffuse suppurative inflammation affecting the deeper tissues of the pharyngeal mucous membrane, extending to the larynx and the glands, attacking secondarily other organs. The disease attacked previously healthy individuals without any apparent cause. The author did not find any difficulty in forming a diagnosis. Diphtheritic laryngitis could easily be excluded. The prognosis is grave in the extreme.

In the discussion that followed Senator's paper, Guttmann remarked that the disease had been described by French authors under the cognomen of erysipelatous inflammation of the pharynx and larynx. Even the absence of the erysipelas cocci from the products of inflammation would not disprove the erysipelatous nature of the inflammation.

Virchow would place the described process under the category of pseudo-erysipelas or diffuse phlegmon. Practically it does not differ from true erysipelas, and it matters not whether or not cocci are found. Most of the phlegmonous affections of the digestive apparatus are extremely infectious. The number of cases is excessively small in which a starting-point can not be traced.

**A Peculiar Microscopical Appearance of the Brachial Plexus in Neuritis consequent upon Typhoid Fever.**—E. Stadelmann (*ibid.*) reports the following case: A driver, aged twenty-seven, during convalescence from a mild attack of typhoid fever, began to suffer with lightning-like pains in the arms and legs, with stiffness and a sensation of cold in the extremities, and with profuse perspiration. The pains in the extremities increased on motion, and after a time affected the abdomen and lower half of the thorax. The extremities were weak and incapable of exertion, the faradaic irritability of the muscles was intact, the galvanic was lowered, the sensibility was diminished, and the tendon reflexes were absent. The cerebral nerves were intact. The patient died twelve days later without any new symptoms manifesting themselves. At the autopsy were found swelling and medullary infiltration of Peyer's patches, typhoid ulcers in the small intestines, patches of lobular pneumonia in the right lung, and a recent endocarditis of the mitral valves. In addition, the brachial plexus and crural nerve were found in a pretty far advanced state of parenchymatous degeneration. The spinal cord, microscopically and macroscopically, was normal, the muscles showed marked waxy degeneration. Worthy of attention was the microscopical appearance of the brachial plexus. In the proliferated perineurium and endoneurium, and even in the loose cellular tissue near the brachial artery, were seen numerous layers of tissue, with large spindle-shaped nuclei which had long processes. A distinct lumen was absent. Longitudinal sections showed that it was simply connective tissue. The significance of these pathological processes was not apparent.

**Cancer of the Stomach; Pylorectomy.**—Dr. McCall Anderson and Mr. George Buchanan ("Brit. Med. Jour.") relate a case of cancer of the stomach in which pylorectomy was done.

The patient, a woman, aged forty-eight, had suffered with symptoms of gastric derangement for four months. She was very pallid, weak, and emaciated. A tumor, of the size of a hen's egg, could be detected in the epigastric region. The stomach had undergone considerable dilatation, but under suitable treatment this disappeared to a great extent. The patient was operated upon by George Buchanan after Billroth's method. She rallied slightly under the effects of free stimulation, but died the next morning from exhaustion. The authors, from their experience in this case and a careful study of the subject, draw the following conclusions: 1. That if pylorectomy is to be undertaken with any prospect of success, the patient must be urged to submit to it long before he is reduced to a state of approaching inanition by starvation. 2. The success or fatality of the operation itself will be greatly affected by the length of time the abdominal cavity is kept open. 3. The freedom of the tumor from complications, such as adhesions and secondary infiltrations, is necessary, but sometimes can only be ascertained during the operation. In answer to the question, Is pylorectomy justifiable or not? they quote two eminent authorities. Butlin: "The excessive mortality due to the operation, the rapidity of recurrence in what have appeared to be most favorable cases for operation, the return of the symptoms of obstruction in some, if not many, of the cases, and the fact that there does not appear to be one case which can be alleged as a genuine cure, lead me to doubt whether the operation of resection of the pylorus for cancer is ever a justifiable operation."

Professor Billroth's assistant, in reply to Mr. Buchanan, writes: "Professor Billroth does not only consider the operation of resection of the pylorus as a justifiable one, but he continues operating with good results in many cases, as you will see in the pamphlet following this letter. Of course he does not operate in cases of carcinoma, if there are already infiltrations and adhesions to the liver and pancreas. In these cases he prefers Wölfler's operation, or gastro-enterostomy."

**Anorexia Nervosa.**—Dr. Stephen Mackenzie ("Lancet," March 31, 1888) relates a case of this affection, to which Sir William Gull has recently so ably drawn attention. As the case is typical of a class of cases which are often very puzzling to the physician, it may be of interest to give its full history. The patient, a governess, aged nineteen, was at the time Dr. Mackenzie saw her greatly emaciated and rather anæmic. She did not complain particularly of anything except weakness. Careful examination failed to reveal any signs of disease in the chest, abdomen, and fundi. On account of pain, she had been taking insufficient food until she had really starved herself into the condition noted. She was admitted into the London Hospital, January 3, 1883. Her family history was not important. She was born in the West Indies, and came to England when a year old. She had inflammation of the bowels when nine, inflammation of the lungs when ten, and gastric fever when fifteen years old. She had had several minor ailments, and was always subject to colds. She stated that, about six years before, she had had a cough and spat blood. About two years before admission she began to be troubled with indigestion. She had pain after eating, with feelings of nausea and heart-burn, faintings, and flushing of the face. Her appetite left her in the previous March, and she had gradually eaten less and less. She noticed that she began to be more fatigued than usual when walking, and she also suffered much from headache. For the last three or four months she had remained at home and in-doors. A year before admission she had a severe fright, caused by burglars. The patient was of light complexion and hair, her expression was sad, her intelligence was good. She was much wasted, weighing only eighty-six pounds. Her abdomen was retracted, and the bowels constipated, never acting more than once in seven or ten days. There were no signs of disease in the heart, liver, or kidneys, and the fundi were normal. She menstruated first at fifteen; the catamenia had always been irregular and scanty, and had been absent since August. She had always suffered from leucorrhœa. Her temperature was subnormal during the whole course of her illness in the hospital, with the exception of the time following admission, when she had an attack of follicular amygdalitis. She was ordered milk and beef-tea, eggs, pudding, and brandy mixture, at regular intervals, with instructions that, if the food was not taken each time, it was to be administered by the stomach-pump or enema. She steadily gained flesh, color, and strength. She menstruated for the first time for seven months on February 23d. She was allowed up for the first time on February 25th, and went out into the garden on March 30th. The medicinal treatment was unimportant; stomachics and aperients were given, and for a time cod-liver oil, which, however, disagreed. As she gained strength she was encouraged to assist in waiting on the other patients in the ward, and she found this occupation so congenial that when she left the hospital she gave up her former profession and regularly adopted that of nursing. She left the hospital in May practically well; when seen a few weeks since by Dr. Mackenzie she was robust and happy.

In an editorial in a prior number of the "Lancet" attention is drawn to Sir William Gull's article on anorexia nervosa. It recalls the chief points in the graphic picture of the disease by the distinguished author, and the simplicity of the treatment. The patients are generally young girls from fourteen years old or more. The disease may, however, occur in males. The great feature of the cases is complete anorexia, leading to extreme emaciation, with slow pulse, subnormal temperature, and very few respirations. Strange to say, there is associated with these depressed functions a remarkable restlessness, a disposition to be moving or walking about, though the patient is an object of remark in the street. There is an entire absence of signs and symptoms of tubercular or other organic disease. The cure consists of three things—rest, warmth, and the regular and frequent introduction of food, in utter disregard of the anorexia of the patient. An efficient nurse is essential. Medicine seems to be of little or no use; massage is not mentioned. Most of the cases seem to occur in the colder months of the year, and possibly this may be more than a coincidence.

**Hysterical Traumatic Arthralgia.**—M. Charcot ("Le progrès médical," January 28, 1888) again draws attention to a form of joint affection which may have a traumatism for its origin, but yet rest on a purely neurotic basis. A case of this kind formed the subject of a clinical lecture recently delivered by him. The patient, a young girl, had fallen on her left knee seven months before. Since that time the knee had been swollen and the patient had kept to her bed. A cursory examination would leave the impression that the patient was the subject of a grave joint affection. The joint was considerably swollen, and its outlines were gone. Movement and manipulations caused considerable pain. The skin over the joint was red and shiny, the local temperature was somewhat higher than that of the opposite side. The limb was in a position of semiflexion and the muscles were markedly atrophied. Analyzing the case, it was found, however, that there had been no fever, and there was no emaciation such as would attend a serious disease of the joint. The redness of the skin was due to all kinds of topical agents that had been employed by various physicians whom the patient had consulted. On further examination, it was found that the patient had left hemianæsthesia and ovarian pain on the left side. There was anæsthesia of the pharynx, and there was considerable diminution of the field of vision of the left eye. There was hyperæsthesia over the third, fourth, fifth, and sixth dorsal vertebræ. Under chloroform it was found that the joint was quite movable and that there was no crepitation to be felt.

The treatment of these cases must be chiefly moral. Hypnotism and suggestion may be tried. The various means employed in hysteria are here called into requisition.

**Peripheral Traumatism as a Cause of Tabes Dorsalis.**—M. Spillman and M. P. Parisol ("Rev. de méd.," 1888, No. 3) have collected fourteen cases, including one case of their own, of tabes, in which a slight peripheral traumatism was the only exciting cause to which the development of the disease could be attributed. Of these cases only two had had syphilis and two more were addicted to the use of alcohol In all the cases in which the matter had been investigated there was a history of hereditary neuroses. The authors are of the opinion that an injury, however slight, to a peripheral part may be sufficient to be the starting-point of a tabes dorsalis in an individual of a neurotic tendency. They think that the question has a medico-legal interest in cases where a person suffers from a life-long disease excited by a slight injury.

**Hypertrophic Cirrhosis of the Liver without Icterus.**—E. Demange (*ibid.*) reports, at considerable length, a case of this kind. The patient, a man, was eighty-four years of age, had always had the best of health, had never had syphilis, and was not addicted to the use of alcohol. He began to suffer from digestive troubles characterized chiefly by diarrhœa and anorexia. The disease ran a rapid course, terminating fatally in three weeks without the slightest sign of jaundice. At the autopsy the liver was found very much increased in size, weighing 2,750 grammes (86 ozs.). There were no nodosities and the enlargement was uniform. Examined histologically, cirrhosis of a venous origin was detected. The connective tissue between the lobules and around the central vein had undergone active proliferation, but there was no appreciable fatty or waxy degeneration. The liver cells had retained their form and size, and there was no proliferation about the biliary ducts.

**On the Effects of Acids (Hydrochloric, Lactic, Acetic, and Carbonic) on the Functions of the Stomach, and their Therapeutic Application.**—W. Jaworski ("Ctrlbl. f. klin. Med.," 1888, No. 10) draws the following conclusions, after extensive experiments with acids on the gastric function:

1. The acids throw down a considerable precipitate of mucus.

2. They (especially hydrochloric acid) increase the cellular elements of the gastric contents.

3. Their introduction is followed by intense butyric reaction, most marked after hydrochloric acid.

4. Larger quantities of the acids produce a considerable effusion of bile into the stomach.

5. They stimulate, very actively, the secretion of pepsin, but have no more influence upon the secretion of hydrochloric acid than so much distilled water would have.

6. Their long-continued administration is followed by marked diminution of the secretion of hydrochloric acid.

7. Even in large quantities hydrochloric acid produces no gastric disturbances. On the contrary, a continued administration of the acid is attended with a feeling of well-being.

8. The difference in the effect between acids and the alkaline salts on the gastric functions consists in the fact that the alkaline salts dissolve the mucus and decrease the secretion of pepsin, while the acids precipitate the mucus and increase the secretion of pepsin. The disappearance of the alkaline salts from the stomach is followed by a decided increase of the hydrochloric-acid secretion. This does not occur, or only to a slight degree, in the case of acids. Both the acids and salts, in large quantities in continued use, have the same effect in lowering the activity, and finally in destroying the function of the glands secreting hydrochloric acid.

Experiments with the introduction of carbonic acid into the stomach, either in gaseous form or dissolved in water, show that this acid has the property of stimulating the peptic and acid functions of the stomach, and in that way increases its digestive power.

**Lathyrismus; its History and Ætiology.**—B. Schuchardt ("Ctrlbl. f. klin. Med.," 1888, No. 10) describes under this term a toxic affection following the continued use of various kinds of peas (*Lathyrus sativus*, *L. cicora*, *L. clymenum*), which was first recognized in the seventeenth century. The author has searched literature on the subject, and finds that all writers agree in stating that the most prominent feature of the affection is a marked disturbance of the nutrition of the muscles of the inferior extremities, together with a pronounced interference with their movements. Similar phenomena are to be witnessed in horses that have been fed for a long time with peas. The animals stumble during light work, on account of rapid paralysis of the inferior extremities, and in many cases they die from asphyxia due to a simultaneous paralysis of the recurrent laryngeal nerve. In man such a paralysis of the recurrent laryngeal does not take place, and death is a very rare termination. Cantani has given the best clinical picture of the disease. The adductor muscles are affected more than the abductors. The muscles of the trunk, neck, face, and upper extremities remain intact. The sensibility of the skin of the legs is normal, so also are the reflexes. The muscles contract slowly with a decreasing galvanic current on closing. With the increasing current, contractions do not take place either on closing or opening the circuit. Microscopical examination of an excised fragment of a muscle shows that the striæ are diminished, and that several small fat cells are to be seen.

Proust makes the guess that the lesion is a transverse myelitis, or a hæmorrhage of the cord, and that this lesion is followed by a secondary degeneration of the lateral columns. But against this view are the facts that many of the patients entirely recover and others are very much improved. Strümpell expresses a similar opinion. Experiments have been made to extract the toxic agent. One observer thinks that he succeeded in obtaining a body resembling an alkaloid which he named lathyrine.

## Miscellany.

**Medical Society of the State of New York.**—In addition to the papers already announced, the following have been promised for the meeting which begins in Albany on Tuesday, February 5th: "The Treatment of the So-called Perityphlitic Abscesses," by Dr. Robert F. Weir; "Basedow's Disease," by Dr. H. R. Hopkins; "Cranial Measurements in Twenty Cases of Infantile Cerebral Hemiplegia," by Dr. Edward D. Fisher and Dr. Frederick Peterson; "Cases illustrating the Curative Effect of Convex Glasses in the Strabismus of Young Children on Some of the Minor Types of Pneumonia," by Dr. T. E. Satterthwaite; "The Practical Application of Acoustics to the Physical Signs of the Human Chest in Diagnosis," by Dr. J. R. Leaming; "The Importance of the Early Recognition of Cancer of the Cervix Uteri," by Dr. Henry C. Coe;

"Office Photography with the Flash Light," by Dr. Henry G. Piffard; "Inferior Dental Neurectomy," by Dr. J. H. Glass; "Vaginal Hysterectomy," by Dr. James B. Hunter; "Septic Poisoning in Early Life," by Dr. Henry D. Chapin; "Amblyopia in Diabetes," by Dr. W. O. Moore. Gentlemen who propose to discuss any of these papers will confer a favor upon the business committee by sending their names to Dr. Roosa, 20 East Thirtieth Street, New York, without delay. A provisional programme will be sent to the press and to members of the society the last week in January.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending January 11th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| New York, N. Y.... | Jan. 5. | 1,549,500 | 785 | .. | .. | .. | .. | .. | .. | 9 | 47 | 43 | 25 | 14 |
| Philadelphia, Pa... | Dec. 29. | 1,016,758 | 349 | .. | .. | .. | .. | .. | .. | 10 | 8 | 7 | .. | 2 |
| Brooklyn, N. Y.... | Dec 29. | 805,885 | 341 | .. | .. | .. | .. | .. | .. | 4 | 12 | 23 | 6 | 7 |
| Baltimore, Md..... | Jan. 5. | 500,343 | 164 | .. | .. | .. | .. | .. | .. | 5 | .. | 6 | .. | 3 |
| St. Louis, Mo...... | Dec. 29. | 440,000 | 156 | .. | .. | .. | .. | .. | .. | 3 | .. | 16 | .. | .... |
| San Francisco, Cal. | Dec. 28. | 330,000 | 102 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | .... |
| Cincinnati, Ohio... | Jan. 5. | 255,139 | 124 | .. | .. | .. | .. | .. | .. | .. | 3 | 7 | .. | ... |
| New Orleans, La... | Dec. 29. | 248,000 | 117 | .. | .. | .. | .. | .. | .. | 3 | .. | 5 | 1 | .... |
| Milwaukee, Wis ... | Jan. 5. | 200,000 | 66 | .. | .. | .. | .. | .. | .. | 1 | 3 | 5 | .. | .... |
| Kansas City, Mo... | Jan. 5. | 180,000 | 30 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Minneapolis, Minn. | Dec. 29. | 180,000 | 43 | .. | .. | .. | .. | .. | .. | 2 | 2 | 6 | .. | .... |
| Newark, N. J...... | Jan. 1. | 179,000 | 76 | .. | .. | .. | .. | .. | .. | 6 | .. | 1 | .. | ... |
| Newark, N. J...... | Jan. 8. | 179,000 | 94 | .. | .. | .. | .. | .. | .. | 9 | 2 | 2 | .. | .. |
| Detroit, Mich...... | Jan. 5. | ........ | 59 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Richmond, Va..... | Dec. 31. | 100,000 | 38 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | ... |
| Richmond, Va..... | Jan. 7. | 100,000 | 32 | .. | .. | .. | .. | .. | .. | .. | .. |  | .. | 1 |
| Denver, Col....... | Jan. 4. | 96,000 | 33 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Toledo, Ohio ...... | Jan. 4. | 80,000 | 23 | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | .. | .... |
| Camden, N. J...... | Jan. 3. | 70,000 | 9 | .. | .. | .. | .. |  | .. | 1 | 1 | .. | .. | .... |
| Nashville, Tenn.... | Jan. 5. | 65,153 | 24 | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .... |
| Fall River, Mass... | Jan. 5. | 65,000 | 32 | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .... |
| Charleston, S. C.... | Jan. 5. | 60,145 | 25 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Lynn, Mass........ | Jan. 5. | 50,000 | 23 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Manchester, N. H.. | Dec. 30. | 41,000 | 19 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Galveston, Texas.. | Dec. 28. | 40,000 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me ...... | Jan. 4. | 40,000 | 15 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Council Bluffs, Ia.. | Jan. 5. | 40,000 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| E. Saginaw, Mich.. | Jan. 5. | 33,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa........ | Dec. 29. | 30,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Auburn, N. Y...... | Jan. 5. | 26,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass.... | Jan. 5. | 25,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Newport, R. I...... | Jan. 3. | 22,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newton, Mass..... | Jan. 5. | 21,105 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Keokuk, Ia........ | Jan. 5. | 16,000 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |

**New York Academy of Medicine.**—The next meeting of the Section in Ophthalmology and Otology will be held on Monday evening, the 21st inst.

At the next meeting of the Section in Laryngology and Rhinology, to be held on Tuesday evening, the 22d inst., Dr. W. F. Chappell will read a "Report of the Examination of the Throats and Noses of 2,000 Children, to ascertain the Frequency of certain Abnormal Conditions."

At the next meeting of the Section in Pædiatrics, to be held on Tuesday evening, the 22d inst., Professor R. H. Chittenden, of the Sheffield Scientific School, Yale University, will present: (*a*) "Observations on the Digestive Ferments in Normal Digestion"; (*b*) "On the Conditions Modifying their Action"; (*c*) "Trypsin and Pepsin as Solvents of Pseudo-membranes."

At the next meeting of the Section in Obstetrics and Gynæcology, to be held on Thursday evening, the 24th inst., Dr. J. R. Nilsen will read a paper on "Some Unusual Complications in Opening Pelvic Abscesses through the Vagina or by Laparotomy"; and Dr. H. J. Boldt will read a paper entitled "Treatment of Suppurative Disease of the Uterine Appendages."

**The New York Ophthalmological Society.**—At the annual meeting, held on Monday, the 14th inst., the following officers were elected: President, Dr. William Oliver Moore; vice-president, Dr. Samuel B. St. John; secretary, Dr. William S. Dennett.

**The Philadelphia County Medical Society.**—Lack of space has compelled us to omit a report of the proceedings of this society for several weeks past. At a meeting held on November 7th there was a comprehensive discussion on the treatment of peritonitis, in which the advantages and disadvantages of opium were particularly considered. A valuable discussion on recent work in abdominal surgery occupied the meeting of November 14th. At the meeting of September 26th, Dr. S. W. Gross read a paper advocating complete extirpation of the breast and removal of the axillary glands in all cases of mammary carcinoma. On November 28th, Dr. William Hunt called attention in a comprehensive paper to the marked liability to gangrene which attends diabetes.

**Cirrhosis of the Liver.**—According to the "Lancet," "Lancereaux treated alcoholic cirrhosis of the liver with iodide of potassium. The iodide is least useful in the hypertrophic form, and when persistent jaundice or perihepatitis obtains. Improvement may be observed in a fortnight, the urine being increased and the ascites diminished; at the same time the venous enlargement of the parietes and the swelling of the spleen tend to subside, and the patient gains weight and strength as the digestion improves. The dose should be an ordinary one, and the treatment kept up for some weeks or even months. Alcohol must be avoided, and a milk diet enjoined; cutaneous frictions are beneficial."

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

THE NEW YORK MEDICAL JOURNAL, January 26, 1889.

## Original Communications.

# ACOUSTICS APPLIED TO THE HUMAN CHEST IN PHYSICAL DIAGNOSIS.*

By J. R. LEAMING, M. D.

The interior conditions of that marvelous instrument, the eye, are made known to us with mathematical precision by the application of the laws of light—optics. Any writer or teacher who should reject or neglect to apply these laws in considering the problems of vision would be unscientific, and most likely wrong. In fact, since the application of the laws of light to the study of the eye, ophthalmology has become, in the hands of its devoted and learned professors, the one branch of medicine entitled to the distinction of being scientific, and consequently certain.

Optics and acoustics are twin-sister sciences, cognate in origin, in similarity of laws, and of results or effects.

The laws of one, which are familiar, have ever been used in elucidation of the obscure in the other.

Yet, while optics has been successfully applied in the diagnosis of diseases of the eye, acoustics has hardly been thought of as a sure scientific solution of the important and difficult problems of diagnosis of diseases of the chest.

The reason for this is, no doubt, the fact that acoustics has until lately been an unapplied science. Its phenomena in nature have been subjects of wonder and superstition, rather than for education. The ancients placed them all under the dominion of Pan, the mysterious god of noise and of silence, the unexplainable, the source of sudden fears, and panics.

Bacon, the great author of modern philosophy, took the greatest interest in studying echoes, which he never comprehended as mathematical results of natural phenomena in such a way as to make them practical, as he would have done had he been acquainted more fully with the laws of sound. Laennec, who discovered the means of diagnosis by auscultation with the stethoscope, and Louis, who did so much to establish its use and to make it practical, were not learned in acoustics. Therefore it has been said that acoustics is not necessary to any one in order that he may become a good auscultator. The brilliancy of the discovery of Laennec, and its great possibilities, blinded the eyes of the profession then and since, so that auscultation has just missed perfection by not being based upon eternal law.

Laennec stumbled upon acoustic facts when he placed one end of a roll of paper against a patient's back and applied his ear to the other. Had he been acquainted with the laws of sound, what a grand opening would this have been for the establishment of fact, instead of ingenious theory in explaining the laws of physical diagnosis! I would not take one leaf from the laurel crown which he so richly won; but rather would add to it that which belongs to discovery—its scientific explanation. Skoda made one step toward this consummation when he discovered the principle of consonation. That was one more discovery which again pointed out the fact that all ascultation to be most valuable must be based upon the laws of sound, but went no further; the time was not yet.

But in this practical age of the application of the laws of sound to the telegraph, the telephone, the phonograph, and the microphone, it becomes an easy thing to apply acoustic law to diagnosis of diseases of the chest, which will raise this branch of medicine also from the realm of hypothesis and place it upon a level with ophthalmology.

Mr. Edison, the discoverer of the phonograph, while listening to music and holding his hat in his hand, noticed that the crown vibrated sensibly to the sound, and this suggested the instrument. For, if vibrations in the air-waves could cause this diaphragm to vibrate, why should not vibrations in a diaphragm also send sound-waves into the air; these waves were recorded in some penetrable substance by a point, and going over the same ground again with the point, would reproduce the sound, and thus the discovery was made.

The discovery of the phonograph began and ended with two elements of acoustics—vibrations and sound-waves. All sound originates in vibrations which pass through the universal medium, the air, in waves the same as does light. The rapidity of the vibrations gives pitch, another element, and is limited in recognition by the ordinary human ear, practically, between thirty-two and forty thousand in a second. Less than thirty-two vibrations in a second give the idea of distinct sounds, and more than about forty thousand in a second result in silence, or are not taken notice of by the sense of hearing.

Tyndall says that if the vibrations number less than sixteen a second we are conscious only of the separate shocks. If they exceed thirty-eight thousand a second, the consciousness of sound ceases altogether. The range of the best ear covers about eleven octaves, but an auditory range limited to six or seven octaves is not uncommon. Music embraces seven octaves, forty to four thousand vibrations in a second.

Thunder is, in nature, the lowest note which can be heard as continuous sound, and the squeak of an insect the highest in pitch; but it is possible that there are still higher notes of the insect which we do not hear, from their too great rapidity of vibration failing to send out sound-waves that could make an impression upon the tympanum.

These three are fundamental principles in acoustics and are essential in understanding the physical conditions of the chest, as we shall see whenever we make application of these laws in diagnosis.

The chest-chamber is encompassed by walls lined internally with a dense, elastic, smooth membrane—the costal pleura. The walls themselves are formed of the ribs, bone, and cartilage, which are connected by thin muscles which interlace, allowing a very considerable movement; but, whether contracted or distended, they are curved in such a way as ever to present a smooth reflecting surface covered by the pleura. This chamber has but little movement in the superior part, where there is but little cartilage, but expands largely at the base, where cartilages are attached to the ribs, lengthening them in front and attaching them to the sternum, which is itself composed of several pieces attached to each other by cartilage, in order to permit movement, and all are closed in at the base by a diaphragm of muscle with great power of expansion and contraction, so that while ever continuing a perfect acoustic chamber in mathematical form, it may be enlarged or contracted, and consequently its power augmented or diminished with the speed of thought. The upper and unyielding part of this chamber is in the form of a cone; above it, in the trachea, which passes down through it, is placed the larynx or sound-box, where voice vibrations are primarily formed and conducted in tubes in every direction to the chest-wall, where they are reflected again and consonated into a mass of harmonious sound, and, coming back, are emitted through the larynx and mouth into the open air, setting all of it into vibrations of music for the exquisite enjoyment of all within hearing. The acoustic chamber of the chest in health is a perfect instrument for the formation and reflection of sound-waves, and it has been said that the violin, the most perfect instrument of music, was formed upon its model. As a sound-chamber it is indeed perfect, but it is liable to be altered in shape and its acoustic perfection destroyed by changes of form from intrapleural adhesions, pressure of tumors, or diseases of the spine, etc. Also the chamber is filled with the lungs and heart and their appendages. All of these interfere with the formation of sound and its passage in waves and reflection from the surfaces of the interior walls. But the lungs are an acoustic instrument, formed of tubes and sacs, for the passage of air and the aeration of the blood of the body which is brought here and is spread out and exposed in the pulmonary capillaries by the heart and blood-vessels; so that the contents of the chest are of the utmost importance to the breathing, living, pulsating being. The membranes, in which the capillaries are spread out in sacs and minute tubes filled with alveoli, are thin, diaphanous, and distensible to a wonderful degree, and yet contract upon the contained air with active force in alternate movements in which the air itself is a factor. Constantly renewed by inhalations about sixteen times a minute, or once every three or four seconds, the fresh, cool, pure air is mixed with the warm, impure air, and interchanges at once commence. The fresh air expands with heat and gives up its oxygen to the greedy blood, and receives in exchange the worn-out material, carbonic and nitrogenic, as filth to be thrown out of the living organism in expiration, while the cooled, freshened, purified blood goes on to the heart to be sent through the systemic circulation, to continue the growth and nutrition of the body.

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* Read before the New York Academy of Medicine, December 6, 1888.

During this vital act of one respiration in the time of three or four seconds, the heart—a double pump—sends half an ounce of blood about twelve times in each direction—the right to the lungs, venous blood; the left, arterial blood, to the system. These acts of the lungs and the heart are rhythmic, and are accomplished with sound—the heart-beat and respiratory murmurs, contemporaneously. The auscultator must take in both, and give each its due importance, recognizing at the same time that they occur in an acoustic chamber, and are reflected from its walls, consonated, harmonized, and governed by definite law, and then we will appreciate auscultation as scientific. The arrangement of the tubes and sacs in the lungs constitutes an acoustic instrument, but of a different kind. Each little sac is a resonator, distended by air constantly rarefied by heat, upon which it actively contracts, causing vibrations which help to make up the vibrations of the true respiratory murmur. Each sac is connected with a bronchus, and so indeed it is with the outside air at each inspiration and expiration, and consequently sound-waves in the open air pass in and are consonated in each sac, as are also the friction-vibrations of the tidal air rushing in and out through the open bronchi. There are three sources of vibrations going to make up the true respiratory murmur, and each one can be distinguished by the organ of hearing being placed in audible connection with the chest-wall. Nor does the fact that the chamber, or its contained system of tubes and consonating sacs, have lost much of their acoustic perfection make it any less necessary to apply these laws to make a correct diagnosis of the location, extent, and condition of the injured part. It rather increases the necessity, for by the application of these laws we measure the deficiency in the only scientific way.

The lungs may originate sound-vibrations in the air-sacs when in perfect condition only—that is, only when the walls of the sacs contract upon the contained air with muscular sound-vibrations, called muscular susurrus, which is consonated in the compressed air of all the sacs into a body of sound.

They may also receive vibrations from without, or from friction of the moving air within the tidal space of the connective system—that is, the space from the entrance at the mouth and nose into the bronchi, as far as there are developed cartilaginous rings to keep them patent, until about the fourth division. Here the tidal air meets the residual air and immediately becomes a part of it, or in so short a time as to be practically immediate, by the law of the diffusion of gases, but which is evidently assisted by the contraction of the distensible bronchi, without cartilage, within the true respiratory system. The tidal-air space, where the bronchial tubes have cartilaginous rings to keep them open, is the location of friction-sound—the air moving in and out—and this friction-sound, as well as sound-waves in the open air, are consonated in the air-sacs.

The distance between the tidal-air space and the air-sacs is filled with compressed air, but confined in distensible tubes in connection with the air-sacs, and together they form the true respiratory system. These tubes do not originate sound; the residual air does not cause friction. The vibrations from without and the friction in the tidal-air space are not consonated in them, but pass through them silently and are consonated in the sacs, as is the sound in a speaking-tube. It is spoken at one end of the tube and heard at the other, but not along the course of the tube, for the sound-vibrations are only at the ends. This is an acoustic law of importance in diagnosticating disease of the lungs, for where unusual sounds or noises come from the true respiratory system other than acoustic consonations, or the muscular susurrus of the sacs, it is an evidence of disease, and is caused by conduction by pathological products. Conduction then becomes an acoustic fact of warning; pathological changes have taken place.

The conditions of health have their signs of acoustic facts, and those of disease as well, and both are unfailing when understood.

*The heart* is also within the chest acoustic chamber, and originates sound; it also obstructs sound, and at the same time conducts sound, which seems paradoxical, but is also true. Its particular and useful office is to pump the blood, to send it down the great arteries and through many divisions until it comes within the influence of attraction by affinity—that is, the aerated blood is sent from the left heart with force commensurate with its purpose, and is assisted by the great arteries following in contraction the blood sent on by the heart's impulse until it is near enough to come under the influence of the tissues eagerly waiting for the coming nutrition.

Without this attraction between the blood and the tissues the circulation could not go on. The physical force of the engine—the heart and arteries—sends it but a certain distance; affinitive attraction does the rest. A power sufficient to send the blood through the capillaries would destroy itself. So the forces are divided—the heart, the arteries, and the attraction of affinity—in the capillaries. All act in unison, and their harmony is evidence of health; their want of harmony, of disease. The right heart beats exactly in the same time as the left. In fact, they have the same beat. In sounds and rhythm, like the left heart, it has three sources of force—the heart, the arteries conveying venous blood, and the capillaries in the true respiratory system. There is this slight difference; the right heart is a little weaker, the arteries are not so strong, nor are the capillaries as vigorous. This is, no doubt, owing to the fact that the circulation itself is shorter and less force is necessary to complete the circuit, and because of the active affinitive attraction between the air and the blood, and because both are free to move toward each other. Both hearts are indeed but one engine. One power moves both in the same moment of time; there is no such thing as heterosynchronous action. Harvey noticed, in his study of the incubation of the hen's egg, that the first appearance of movement in the germinal spot after about two days was a red point which appeared and disappeared rhythmically. This is the first evidence of organic life, or life of the body, and this rhythmic movement commences before there is any heart, or even a rudimentary pulsating tube, which answers in the lowest forms of animals for a heart. The rhythmic movement is *sui generis.* It is the one characteristic, manifest action of organic life in man as well as in animals of a lower order. Rhythmic movement is primary, and it builds its home; first, the simple pulsating tube, which becomes an auricle, and then a ventricle is added, and then in time another auricle and another ventricle, and it becomes a double heart, and the arteries are pushed out until finally there is a perfect body—two circulations, a digestive apparatus, a brain and nervous system—a man in all his parts. But still the rhythmic pulsations of the heart go on counting time until the last one, when life ceases and decay begins—a cycle of man's life.

The heart's sounds may be brought into the chest-wall at two different points, from or by either heart, by conduction, and thus give the idea of duplication; but the application of acoustic law corrects the illusion.

In the human chest the heart lies, or is hung, in the middle, obliquely, the apex pointing to the interspace between the fifth and sixth ribs, while the base extends to the right upward and backward, and it is partly in the right and partly in the left chest. It is attached to the mediastinum and to the root of the lungs, and is capable of considerable movement up and down and laterally, outside of the rhythmical beat. It is inclosed in a sac, arising from the blood-vessels, lined upon the inside and covered upon the outside with serous membrane—the pericardium. This sac lies naturally in intimate connection with the heart, conducting sounds perfectly, without adhesion or pathological attachments.

The lungs, separated in the middle by the mediastinum, fill the chest with the exception of the heart, which has a space hollowed out in them for it, only leaving a triangular space in front uncovered—the apex-beat area, which comes against the chest-wall, and into which is delivered its sound directly, nothing intervening but the close-fitting pericardial sacs.

This perhaps tedious description of what you learned so carefully in your student days is only given to remind you how entirely it all agrees with the laws of sound. The lungs press against the inner chest-wall during a full inspiration in every space except that of the apex-beat area, which is occupied exclusively by the heart in health. The lungs convey sound through their convective tubes and deliver it into the chest-wall through the air-sacs with diminished intensity during expiration and with increased intensity in inspiration. The lungs are a perfect conductor of sound in the direction of their columns of air in tubes, but are non-conductive in any other direction. The lungs shut off all sound coming from the heart, except by natural direct conduction through the mediastinum, in all parts covered by them; so that whenever the heart-sounds are heard otherwise through the lung-substance it is acoustic evidence of pathological change. Either the lung is condensed by pressure, or there is consolidation or adhesions. The heart delivers its sounds only by direct conduction through the mediastinum to diagnostic points in and near the sternum; but naturally in the apex-beat area, with diminished intensity during the diastole and increased during the systole, because it is then pressed against the chest-wall. Of course, the heart shuts off all respiratory murmurs within the apex-beat area. It conducts sound when pressed against the chest-wall, or when there is consolidation of the lung, or adhesions attaching the pericardial sac to the lungs and the lungs to the chest-wall. We are now able to consider its peculiar mechanism for originating sound.

As said before, the heart is a double pumping-engine, its stimulus of contraction and repose being fundamental in the organic life of the body. The rhythmical heart-beat, commencing before the heart had structure or form, still marks the time of the individual life—seventy to eighty per minute ordinarily, sometimes slower and sometimes faster—as if nature had originally intended it should be sixty per minute, and something had disarranged its beat. But any notable change has come to be a sign of danger.

The heart is a hollow muscle divided into two chambers and united by a common wall—the septum ventriculorum—and during the closure of the auriculo-ventricular valves each side is again divided into auricle and ventricle. When the heart is at rest there are two chambers; during contraction there are four. The blood enters the heart on either side through the auricles during the heart's rest after contraction, passively distending it, and floating the auriculo-ventricular valves up to their proper place, dividing each heart into two chambers, with doors not quite closed, when the motion of contraction, commencing in the auricles, instantly passes into the ventricles, closing tightly the auriculo-ventricular valves and forcing the contents of the ventricle into the open aorta and pulmonary artery, when the contraction ceases, and then follows muscular relaxation. The resiliency of the aorta and pulmonary artery, reacting, brings back the blood with force and closes the semilunar valves, and holds them until they are again forced open by the blood which is again forced into the artery, and throws the valves back against their walls for its easy passage.

The heart works and rests, contracts and relaxes. Auricle and ventricle in action are one. And were it not for the closure of the semilunar valves forcibly by the return shock of blood in the arteries, there would be no mystery in the sounds and intervals of silence in the cardiac cycle. It would simply be contraction and relaxation—one sound and one interval of silence. But the return blood, closing the semilunar valves, makes another sound and divides the interval of silence into two parts, one short and the other long, and thus we get the rhythm of the cardiac cycle. The first sound is long, formed entirely by the heart's contraction, occupying about one third of the cycle, and is emphasized by the apex-beat; the interval from the apex-beat until the "tack" sound of the closure of the semilunar valves is the first interval of silence, short. And this gives us the rhythmic first sound, long; first interval of silence, short. Second sound short, a mere "tack," and then follows the long interval of silence, filling up the cycle.

The study of the heart's rhythm is entirely acoustic, and its right apprehension is of far more importance than all the other signs together, for there can be no alteration of the rhythm without pathologic cause. Murmurs may be heard, and in various areas, and mean little or nothing if the rhythm remains correct, but the slightest variation in rhythm means possibly danger.

We are now prepared to look into the heart and study its sound-producing capability. The outside cause of the second sound, the forcible closing of the valves which are placed at the opening into the aorta and pulmonary valve by the blood sent back by the resilient artery, makes the second sound and divides the period of relaxation into two parts—a short sound and a short and long interval of silence. There is no dispute in regard to these; they are understood. The closure of the valves causes the sound, and divides the interval of silence.

But about the first sound there are different opinions. More than twenty years ago, before the County Medical Society of New York, I gave a synopsis of the views held by the profession of that time, and presented my own views, which I then believed agreed with acoustic law and physics. I feel more sure now than then that I gave the true philosophical explanation. It is this: The mitral valve (and the tricuspid) are curtains closing the auriculo-ventricular openings. They are floated up to their plane by the inwelling blood during the relaxation of the heart, and are held from being crushed through by tendinous cords attached to the valves and to the fleshy walls of the ventricle through the intervention of fleshy columns or the small muscular elevations arising from the interior walls. These tendinous cords hold the curtains of the valve and prevent them from being forced through the opening. They are tendinous and strong, taking up but little space and offering a minimum obstruction to the rushing blood. The valve itself is a tendinous expansion, and, at the same time with the contraction of the heart, the columnæ carneæ and the musculi papillares also contract in such a nice way that the curtains of the valves are kept in exact coaptation and resist the forcing blood and turn its stream into the course of the natural exit. When every drop of blood has thus been forced out, the heart relaxes and the semilunar valves are closed. Just run over this again: The curtains of the valves are floated up to the closure of the auriculo-ventricular system, but without force, for as yet there is no contraction—then, like a flash of lightning, the contraction commences in the auricle, instantly passes down into the ventricle, and the valves are forcibly closed. Of course there will be sound. The stretched and vibrating membrane of the valve gives a drum-like sound of low note; the chordæ tendineæ are also thrown into vibrations in harmony with the valve, but of higher pitch.

As the contraction of the heart goes on, the valve-note grows less and less and the higher note of the chordæ increases until the apex strikes the chest-wall and relaxation commences. This is the mechanism of the first sound. It begins in a low note, and gradually increases in pitch until apex-beat. As the whole cycle is about only one second, the time of the first sound is not more than one third of a second—a very short time in which to make observations of a complicated contraction of a hollow muscle, which suddenly begins to contract upon its contained blood and to expel it from its suddenly formed, bound, girded compartment, rapidly contracting in size until it has ejected all within and the apex is brought against the chest-wall with force. Then as suddenly relaxing, every muscular fiber, the chordæ, and valves lying loosely and without force in the midst of the greater chamber, which fills passively with blood, floating the valves into place for the artificial division of the chamber, when the contraction binds, girds, and holds the compartment, while it systematically contracts in size, expelling its contents. All of this is done with accompanying sound—first of the valve, then of the valve and vibrating cords, and lastly of the cords alone, and is ended by the stroke against the chest-wall, all in one third of a second, to be commenced again after two thirds of a second of silence and relaxation, divided into two unequal parts by closure of the exit valves and the second sound.

The heart does but one thing: it contracts. The relaxation is passive. Whatever else takes place is outside, extrinsic physically, or perhaps only in the imagination of the observer. The muscular susurrus, however, of the heart-muscle is a physical fact; also the blood friction rushing through and among the chordæ and against the tense vibrating valve, which has suddenly divided the right or left heart into two compartments—auricle and ventricle.

The auscultator will become learned in the rhythm of the heart's cycle, the quality of its sounds, and the length of its intervals of silence. Like the engineer with his engine, or the clock-maker with his time-piece, he becomes intimate with its sounds or murmurs, and they constantly communicate with him in a most intelligent manner. If the engineer is asleep and the rhythm of his engine is disturbed, he instantly awakens. The clock-maker of old used a stick of wood between his ear and the clock to listen long before Laennec was born, and he could detect any change in the regular movement of the works or the tick at once.

The first sound, then, is formed by the vibrations of the tense mitral valve, by the tense chordæ, the sound of muscular contraction, and the friction of the blood. If it loses the valve sound—the low, drum-like note—we know that the vibrating power of the valve is affected. If it has also lost the higher note of the vibrating chordæ, we know that they are affected pathologically. If the valve and chordæ sounds are both gone, then all that is left of the first sound is of blood friction and muscular contraction. If the first sound is increased in energy, and the first interval of silence in length, and the second sound is emphasized with the second interval of silence shortened, we know that there is obstruction at the aortic orifice, or regurgitation, and there will be arterial tension. But regurgitation is practically obstruction, and must soon cause hypertrophy; but hypertrophy is compensation. Where compensation is sufficient, arterial tension will have subsided.

In our description of acoustic facts we now come to the organ of hearing in the auscultator, in which we will content ourselves by describing it as inclosed within the temporal bone of the skull, and entrance to it from without is by a curved foramen in which is stretched across and closing it a membrane—the tympanum—which receives the waves of sound, registers them, and communicates them to an interior mechanism of curious and scientific construction, the description of which we will not now indulge ourselves in, with these exceptions, that the tympanum is supplied with small muscles and bones, which act as machinery to make it tense or relaxed as may be necessary for its purpose. And that from the throat of the individual there is also an entrance for air to the opposite side of the tympanum of great importance to its usefulness.

The methods of auscultation are by placing the ear against the chest-wall so that the drum may receive the vibrations; or a piece of wood or other sonorous substance may be placed one end against the external ear and the other against the part to be auscultated; or a tube should enter the external meatus or opening to direct the sound-waves against the drum. The binaural stethoscope of Cammann, conveying twin waves to either drum, is, in mechanism, the most perfect instrument for artificial auscultation invented. But, while stethoscopes have particular advantages and claims for use as a means of avoiding filth and vermin and for direction and limitation of object (and their use must be cultivated), yet for accuracy, delicacy, and freedom from acoustic imperfection or injury from outside causes, nothing equals the temporal bone of the head, placed against the sonorous object, so that the sound vibrations may pass directly into it and to the organ of hearing. One may have occlusion of the Eustachian tube and the hearing will be impaired, or there may be injury of the drum and the person may be deaf, but if he is accustomed to receive sound impressions from vibrating bodies directly into the temporal bone, he will not lose his power of auscultation because he is deaf by injury of the drum. The whole side of the head is sensitive to direct vibrations delivered directly from a sonorous body. But the most sensitive part is in front and just above the external ear. Here, and in this way, the nicest discrimination of sound can be made, and, under the laws of acoustics, correct diagnosis. It is not affected by age, by the accumulation of dried wax in the ear, or inflamed throat, closing the Eustachian tubes. It measures the time in the heart's cycle with unerring certainty and detects the slightest fault in rhythm, and, of course, detects the earliest evidence of pathological change. The respiratory murmurs—their analysis and cause, their locality and manner of conduction into the chest-wall—are all noted by this perfect acoustic instrument, a microphonometer.

# ANGINA AND PNEUMONIA
## BEFORE 1857 AND SINCE;
### WITH THE PATHOLOGY OF DIPHTHERIA IN ITS VARIOUS PHASES.*

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This paper is offered as a contribution to the history and nature of diphtheria; to show that, in the light of many observations of later years, it must be regarded as a constitutional disease, often with little manifestation in the fauces, and sometimes an entire absence there of the exudation-membrane from which its name is derived. As a preparation for a trustworthy presentation of the subject, a brief view will be taken of the varieties of angina and faucial inflammation observed before 1857—the date of the onset of the present epidemic of diphtheria in America—and also a view of the acute pneumonia of the same period.

Before 1857 diphtheria was known in the United States only in French literature. We might occasionally meet with a case of exudative pharyngitis, to which we would give the name of *diphtherite*, as we had learned from Bretonneau to designate it; but such a disease never gave evidence of being infectious. So in England, as late as 1855,

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Barlow says, in his "Practice of Medicine," in his lecture on cynanche: "There is indeed another form of this disease, to which the term *diphtherite* has been applied by French authors"—showing that it was something with which he in England was personally unacquainted.

Inflammations of the fauces, unattended by plastic exudation, were common affections. They were characterized by fever and general *malaise*, with difficult or painful deglutition, varying in severity according as the tonsils were more or less involved. The inflammation was superficial or it was deep-seated, including the entire pharynx and soft palate, and often extending into the posterior nares and the Eustachian tubes.

It was catarrhal, rheumatic, or parenchymatous. It might present the form of "a bright-red efflorescence of the throat, with tumefaction and copious secretion of mucus; or, tense and dry, the mucous membrane might have a duller and deeper red; or it might be marked by relaxation and puffiness of the mucous membrane, in consequence of serous exudation under the epithelium or in the substance of the mucous tissue itself, or in the submucous areolar tissue."

These were forms of inflammation which had no serious results, the attack covering two or three days, without sequelæ. In these cases the tonsils were involved, but only in the form of a superficial inflammation, although sometimes with considerable enlargement, but not to the extent of closing the isthmus faucium, the swelling in some instances subsiding after free catharsis.

Follicular amygdalitis—in which the tonsils are the chief seat of the inflammation, with considerable enlargement, general redness, and a muco-purulent accumulation in the follicles, giving the whole an appearance of numerous white spots upon the red surface—was not an uncommon affection. It began with a sharp febrile attack, with painful deglutition, generally running through its course in a few days. It was not infectious. Instances of its occasional prevalence in public institutions, where it appeared to have an infectious character, will be presented later when the subject of diphtheria is considered.

Parenchymatous inflammation of the tonsils was a much more grave affection. It is characterized by great swelling of one or both tonsils and the velum palati, sometimes entirely closing the isthmus faucium, rendering respiration difficult, deglutition impossible, and the attempt to swallow excruciatingly painful. This disease, to which the name of quinsy adheres, is one of the most distressing of acute diseases. The act of deglutition is excited every few minutes by the mucus which accumulates in the throat, and every movement of the pharyngeal muscles occasions unspeakable agony. No liquid can pass the isthmus faucium, or, if any portion passes, it is apt to be returned by the nose. The inflammation results in deep suppuration, and the abscess breaks into the mouth after several days, with entire relief of the suffering and rapid recovery. Angina tonsillaris, as it is called, is apt to recur; and many persons suffer an annual or a more frequent return of these attacks.

Such are the anginas as they were seen before 1857. And they still occur, unchanged in character, and perhaps with no less frequency, the results of exposure to wet and cold and violent changes of weather, or the consequence of disorders of the chylopoietic system, from surfeits or other recognized causes of indigestion.

It may be a question, however, whether diphtheria may not in many instances have supervened upon them. The atmosphere is loaded with micro-organisms, a very small proportion of which are productive of general or special disease. The morbific bacteria require an appropriate nidus for their development. In this way we explain the history of tuberculosis, which destroys whole families, while others are entirely free from it; the *Bacillus tuberculosis* requires a suitable nidus, which it finds in some persons but never in others. If we attribute diphtheria to bacteria, we may reasonably conclude that sometimes inflammations of the throat, benign at the outset, become diphtheritic, the inflamed mucous membrane aiding in the development of the pathogenetic germs which on a healthy membrane might never have matured; just as an ulcerated cutaneous surface may become covered with a diphtheritic membrane in an infected atmosphere. Jacobi says: "Diphtheria, as a rule, will not attack a sound mucous membrane." Hence it is probable that since diphtheria has been so prevalent we have seen fewer cases of simple faucial inflammation than formerly.

Diphtheria, however, may have its chief seat in the lungs, or in any of the mucous membranes, and affect the throat so slightly that it would be overlooked unless special search were made for it. In other words, we may have diphtheritic pneumonia.

Before the appearance of diphtheria in the United States, pneumonia was known only in sporadic form, and was generally regarded as a local inflammation, resulting from exposure to cold—except where it complicated or followed measles, typhoid fever, chronic nephritis, or some other disease. No writer thirty years ago took any other view.

The universal experience was that single uncomplicated pneumonia in adults, under the expectant treatment in use after 1850, was never fatal. Of 1,255 hospital cases reported by Dietl, Varentrapp, Skoda, and Bennett, between 1850 and 1857, only 87 were fatal—less than 7 per cent.—against a mortality of 28 per cent. of 1,403 cases treated antiphlogistically in the previous ten years. And Dietl says that of his 750 cases every fatal one was complicated.

That cold and dampness are prominent exciting causes of pneumonia is shown by mortality tables in the United States and in Europe. It is much more frequent in winter and spring than in summer and autumn.

In Brooklyn the deaths by pneumonia in two years were: In 1886, first quarter, 489; second, 335; third, 176; fourth, 468. In 1887, first quarter, 492; second, 346; third, 168; fourth, 412.

Juergensen reports that in six large European cities 31·1 per cent. of the deaths by pneumonia take place in winter; in spring, 33·1 per cent.; in summer, 16·1 per cent.; in autumn, 17·7 per cent.—that is, 66·2 per cent. in winter and spring, and 33·8 per cent. in summer and autumn.

In London, for fourteen years, ending in 1854: first quarter, 31·3 per cent.; second, 21·4; third, 14·4; fourth, 32·9.

In the Vienna General Hospital the admissions of pneumonia for twenty years were: first quarter, 29·5 per cent.; second, 33·5; third, 15·4; fourth, 21·6.

In the United States Army, between 1839 and 1855, the cases of pneumonia were, from January to June 18th, 60 per cent.; from July to December 12th, 40 per cent.

Doubtless, in most cases where exposure to weather acts as the exciting cause, there is a predisposition in some idiosyncrasy or already existing functional disturbance, especially of the portal circulation.

Within the past fifteen years, one and another writer of high authority has adopted the opinion that acute lobar pneumonia is an essential fever, and not originally a local affection. The late Dr. Austin Flint read a paper to the New York State Medical Society in 1877 advocating this view, and reiterated it in opening a discussion upon pneumonia at the annual meeting of the New York State Medical Association in 1885.

At the same meeting Dr. Didama inclined to the same opinion, and said also: "There are good reasons for regarding pneumonia as infectious, and even occasionally contagious." He also quotes Sée as denying that pneumonia is a general disease, but admitting that it is infectious. And Dr. Biggs said: "I believe pneumonia to be an infectious disease due to a micro-organism." And Dr. Janeway quoted Klebs, Ebert, Koch, Friedlander, and others as describing a bacterium characteristic of pneumonia. Time will show whether their conclusions are trustworthy. But the opinion that pneumonia is a specific disease has originated within the last twenty years—inside the period of the present epidemic of diphtheria. There is no evidence in Dr. Flint's paper in 1855 that he regarded pneumonia as anything but a local disease.

Pneumonia has certainly increased in frequency and perhaps in proportional fatality within twenty years. In 1868, with a population in Brooklyn of 369,000, there were 247 deaths by pneumonia. In 1885, with a population of 666,000, there were 1,446 deaths by pneumonia. The mortality by pneumonia had become nearly six times greater, while the population had not quite doubled; thus pneumonia had become about three times as frequent or as fatal. There are no data to show whether the increase was in the prevalence of the disease or in its proportional mortality. There has been some falling off since 1885.

No explanation of this increase has been arrived at in New York or Brooklyn. But in some small cities and towns, where the tracks of disease are more easily followed, and where perhaps the specific character has been more marked, it has been established beyond question that a large number of cases of pneumonia are diphtheritic. Not a sequel of diphtheritic pharyngitis, but a diphtheritic pneumonia from the outset.

In Troy and some of the neighboring towns diphtheria has been for some years very prevalent, and Dr. William P. Seymour, of Troy, has for twenty years recognized the pneumonic form, which he has repeatedly verified, and his experience has been gradually confirmed by some other observers.

Dr. Seymour's large experience has satisfied him that diphtheria is to be regarded as a constitutional disease, manifesting itself upon any mucous membrane, and frequently exhibiting no exudation-membrane on the fauces, while attacking the lungs or other organs; that *the diagnosis does not depend upon the presence of a false membrane in the throat.*

This view of diphtheria, without a visible exudation-membrane, has never been generally accepted. For, although Greenhow, in 1861, evidently inclined to include in the same classification the non-membranous sore throats which he saw in diphtheria epidemics; and Dr. H. H. Childs, at the meeting of the Berkshire, Mass., Medical Society in January, 1861, expressed the opinion "that there was a succession of symptoms which revealed the diphtheritic poisoning as surely as the existence of the false membrane"; and Dr. R. C. Stiles, on the same occasion, said "that the presence or absence of false membrane on the pharynx or air-passages could not be made a test of the presence or absence of the diphtheritic poison in the blood"; * yet the dictum of Bretonneau, that no inflammation unattended by exudation is diphtheritic, is still generally accepted,† and Jacobi does not consider any cases as diphtheria unless the membrane is present. He says: "The characteristic sign of diphtheria is the membrane," and "Diphtheria is characterized by its membrane." ‡

In striking illustration of the opinion which Dr. Seymour has maintained in spite of much opposition, the following very interesting and important cases are related by his son, Dr. William Wotkyns Seymour, from his own professional experience:

"Whether there is in all cases of infectious croup a membrane I very much doubt, and I base my opinion upon many cases, of which my own child's case is the most striking. The facts are as follows: My child, then within a few days of her first birthday, the last of December, 1883, became croupy. There was no fever, no membrane visible during the entire course of the croup, which lasted ten days, and gave me great anxiety, because of the very great prostration and blanching produced by the attack. A week later my wife was taken down with pains in the bones, marked sore throat, great physical depression, moderate fever, but never a particle of membrane. She remained away from the baby ten days, during which time the child was in the nurse's care. A few days after my wife's recovery the nurse came down in the same way, but never a shadow of a membrane. She also remained away from the baby ten days, and then again my wife had a second attack, but still no membrane. She was quarantined for ten days, and then returned to the care of the baby.

"During all this time, considerably over a month, the baby remained prostrated and blanched, and the lips, always bluish, became markedly so on the slightest exertion. With the hope of benefit from a change of air, my wife took the baby to her mother's on a large, airy, well-drained farm, a mile from a Vermont village, and what was the result? Within a week every member of my mother-in-law's family was down with diphtheria, and the exudation was very abundant. I asked the attending physician, Dr. William Platt, where the disease came from, and he responded that my family brought it, as he had seen no case within a mile or more of the house in a year. To my further statement that in the previous illness no membranes had been observed, he said that, in his experience, membrane was not a necessary attendant upon cases which in themselves might be active carriers of the most deadly disease."

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* "Berkshire Med. Journal," 1861, pp. 70, 71.

† "Greenhow on Diphtheria," p. 42.

‡ "Treatise on Diphtheria," by A. Jacobi, 1880, pp. 134, 147, 159.

These interesting cases are sufficient for illustration. Similar experiences are furnished by Dr. William P. Seymour and Dr. S. A. Skinner, of Hoosic Falls, and doubtless could be matched by many others; but in large cities the traces of contagion are less easily followed than in small communities.

When the exudation-membrane is absent from the fauces there is the characteristic redness of the mucous membrane, with more or less swelling, and often an abundant secretion seen in strings of tenacious mucus stretching from the soft palate to the tongue.

The subject of diphtheria in the form of pneumonia and other inflammations, but especially pneumonia, I will present in the language of Dr. W. P. Seymour and Dr. W. W. Seymour, which they have kindly furnished for the occasion.

Dr. W. P. Seymour says:

> "For the last fifteen or more years there has been a great change in the symptoms and course of diphtheria. There has been more blood poisoning, presenting a greater diversity in the character of different individual cases, or of many cases at different times, in accordance with the amount of the blood-changes or the physiological functions of the organ principally suffering. The localization has been upon the different vital organs more frequently than in the throat, causing in the lungs bronchitis, broncho-pneumonia, fibrous pneumonia, wandering pneumonia, pleurisy, and all other forms of pulmonary disease, doubtless differing in their histological character in no respects from the same form of disease from other causes, except in the character of the blood-changes, the presence of bacilli, and an infectious character so pronounced and so common that the old-fashioned idiopathic pneumonia is rarely met with; and young teachers, having but little or no experience of any other form, talk of pneumonia as a specific form of fever and infectious, and of membranous croup as always diphtheritic. Localized in the liver, it has produced vomiting and purging. In the skin, so-called cases of measles or scarlet fever."

Dr. Seymour presents as an example of diphtheritic pneumonia an experience shared with Dr. Bontecou—who had charge of some of the patients—of nine persons, most of whom were in one family and all exposed to the contagion, who one after another were attacked with diphtheria, two of whom had pneumonia and died. In one of the cases of pneumonia, which began with a sore throat and was diagnosticated as diphtheria by Dr. Seymour, specimens of the lung were sent for examination, on account of the unusual interest in the subject, to Dr. Welch and Dr. Delafield, who reported croupous pneumonia.

Dr. S. A. Skinner, of Hoosic Falls, in a paper on this subject prepared for the January meeting of the Union Medical Association of Bennington, Rensselaer, and Washington Counties—from which he has kindly permitted me to quote—reports the cases of a family of eight persons, seven of whom had diphtheria—man and wife, brother, three children, and two nurses. The father only escaped; the rest had sore throats; all the adults had pneumonia; the mother and her brother and one nurse died. He says:

> "In 1878 I was called to see a woman who had been ill two days with a sore throat, and began to cough on the second day. Her three boys were recovering under domestic treatment from a mild diphtheria of the throat. On examining her, I found the fauces a dark red, with well-defined margin; the secretion in the mouth appeared very tenacious and stringy, stretching from the roof to the tongue. Skin slightly cyanosed. Her lungs presented signs of broncho-pneumonia of a wandering character. On auscultation, I diagnosticated pneumonia. Still I was not satisfied, as the characteristic symptoms were not in accordance with my previous experience in pneumonia. There was a fine crepitant râle at the base of the chest with resonant percussion. No expectoration to speak of. On the next day I expected to find the lung hepatized, but did not. She was expectorating to a small extent slightly tinged red sputa, but not viscid. Prognosis unfavorable. Death on the fourth day of her illness."

Dr. Skinner describes the other fatal cases, and says: "From that date up to the present time we have had occasionally cases of a similar type." He relates the cases of two women in the same family ill this year with diphtheritic pneumonia—both grave cases, but which recovered under the free use of whisky and carbonate of ammonia.

Dr. W. Wotkyns Seymour says:

> "In my own practice I have seen in at least three instances diphtheritic patches on the vulvæ of children after they had been ill for several days with pneumonia accompanied by great prostration."

The only case of diphtheritic pneumonia that I have personally recognized is that of a girl, twelve years old, whom I saw first in February, 1886:

On the 26th she had been feverish for two days, after two weeks of a common cold, with cough. Reported hard vomiting and delirium the night before. She was in bed; pulse, 126; temperature, 103·5°. Tongue covered with a white coat except at tip and edges, which were red and smooth. No membranous exudation and no cutaneous eruption anywhere. No physical signs in chest. In fact, she had all the symptoms of scarlet fever without any rash.

*February 27th.*—She had a chill followed by increased heat, several loose dejections, almost incessant short cough, with occasional rusty sputa, and the next morning there was bronchial respiration with moderate dullness on percussion over upper right back, with some crepitus under the lower edge of the scapula. Next day hepatization more complete; sputa small in quantity, rusty and viscid. Resolution began on the fourth day from the attack of pneumonia, with normal temperature. On the fifth day temperature 104·2° in axilla, with diarrhœa and heavily coated tongue, but no renewal of hepatization. Next day complete intermission, temperature being below 98° in axilla all day. Aphthæ in cheeks. The next day high temperature in afternoon, but no physical signs of pneumonia. After this the temperature never rose above 101·1°, with a daily remission, and after the ninth day from the first signs of pneumonia, never went beyond the normal point. After resolution of the hepatized lung and during the subsequent fever there were swelling and soreness of the tongue, with a dirty white coat. The mouth was sore and the lips bled easily. And on the 10th of March, twelve days from the attack, amid general improvement, while the lobes of the tongue were clean but swollen, the center was depressed, with a dirty-white exudation-membrane covering it.

The patient was put on tincture of chloride of iron and phosphoric acid in frequent doses, in place of the quinine which she had been taking, and the next day the exudation was nearly gone. There was no albumin in the urine.

A case of double pneumonia, followed immediately by diphtheria, in which the exudation covered the entire mucous membrane of the mouth, and was followed by nephritis, is the only other instance in which I have recognized the conjunction of the two diseases, or either of them in immediate sequence. But the supervention of diphtheria upon various acute diseases is well known.

But I have obtained a brief history of a recent case in New York city, of which I will give an abstract:

Dr. Chalmers, Chief Ambulance Surgeon of Gouverneur Hospital, was attacked November 3d. On that day had an ulcer in the nose; the next day the left tonsil was covered with a diphtheritic exudation; the third day it had extended over the whole pharynx with the uvula and the right tonsil, and was seen by the laryngoscope to be upon the vocal cords. On the fourth day there was pericarditis. On the seventh day circumscribed lobular pneumonia in the left lower lobe, with rusty sputa for a day. Several days afterward there was pneumonia of the whole of the middle and lower lobes of the right lung, with rusty sputa for several days. The pneumonia ran its course in about the usual time, but the exudation did not entirely disappear from the throat for five weeks. In the course of the pneumonia, endocarditis was developed, and the urine had 50 per cent. of albumin, which, after four days under the use of strophanthus, was reduced to 5 per cent. He is still in bed, but has no albumin in his urine, and convalescence goes steadily on. During the active stage of his disease he was treated with brandy—never less than thirty ounces in twenty-four hours, and on one day he took two quarts.

Dr. William W. Seymour gives the following pathological statement of the principal varieties of diphtheria:

"With regard to the lungs in diphtheritic cases there are two classes of cases: First, those in which, without any accompanying bronchitis or pneumonia, there is a loss of respiratory murmur over varying areas of lung tissue, accompanied by slightly impaired percussion and vocal resonance, by more or less pronounced want of air. These areas may flit from one position to another of a lung or both lungs in a few hours. This phenomenon is evidently due to a pneumoparesis, a poisoning of the pneumogastric. Dr. B. W. Richardson has recently described cases of 'pneumoparesis,' but he regards them as inevitably fatal. The condition can not be due to an infiltration, or it would not disappear so rapidly; nor can it be due to a local œdema, for in many cases there are no râles, and œdema, interstitial or intralobular, could not disappear so rapidly. But a paresis will fully account for all the lung symptoms, whether mild or severe.

"In the milder cases, with considerable prostration and arthralgias, the patient feels a want of air, as if breathing through cotton. Physical examination shows a feeble pulse, little or no elevation of temperature, but an area or areas of lung tissue where the respiratory murmur is either feeble or entirely absent. There is very slight dullness and impaired vocal resonance. This persists from a few hours to several days. If the patient convalesces, the respiration becomes more and more full and no trace of disease is left behind. If, on the other hand, the case tends to a fatal termination, with little or no expectoration, there is increasing dyspnœa, râles coarse and fine are heard everywhere, respiration becomes more and more rapid and shallow, and the patient dies of asphyxia.

"It is almost impossible at times to say whether we are dealing with a case of pneumoparesis or what Buckler has described as leuco-inoitis, an acute inflammation of interstitial lung and bronchial tissue, which is chiefly of gouty or rheumatic origin.

"The second class of lung cases are the pneumonias. I do not mean the broncho-pneumonias, occurring from inspired irritants, but the croupous pneumonias, the lobar pneumonias. The present tendency of pathologists everywhere seems to be to regard croupous pneumonia as a general disease of which the lung trouble is only a symptom. This is the doctrine first advanced by Juergensen, and adopted by Pons, Grisolle, Flint, Loomis, Pepper, and others. I believe the present teaching that all pneumonias are manifestations of a general constitutional poison is a grave mistake. The pendulum has swung too far. The old writers, such as Gerhard, were too good observers not to see a general disease if it was common among their cases. But they did recognize epidemics of an asthenic type, and believed them to be different from the simple, definite-coursed, sthenic pneumonia.

"When pneumonia occurs as a result of diphtheritic poison, it is chiefly characterized by the disproportion existing between the amount of lung tissue involved and the disturbance of heart and nervous centers. The expectoration is usually slight, not commonly tinged with blood. The disease often migrates from one portion of the lung to another, and in general pursues no definite course in time or place. The cases not infrequently occur in groups. I have had five in one family; and not infrequently some of the attendants come down with pneumonia or pharyngeal diphtheria, and die of them.

"Diphtheria, erysipelas, malarial fever, typhoid, and acute rheumatism may, by their specific poisons, occasion croupous pneumonia, and it is to these poisons that we must look for the specificness of our disease.

"Diphtheria has been endemic here for thirty years, and it has only been since this time that a few good observers here have noted that our present pneumonias were not all of the same type as those occurring in the earlier days of their practice. My father has for twenty years maintained that the present form of pneumonia was infectious, and that it owed its greater or less infectiousness to our endemic diphtheritic poison.

"Pathologically, I believe the pneumonia to be due to microbiotic emboli, to lodgment of the cocci in the capillaries of the lungs. Friedlander has discovered a pneumococcus, and Max Schüller and others have shown the cocci of diphtheria in the painful joints, lungs, heart, and kidneys of fatal cases.

"The skin is frequently the seat of eruptions during diphtheritic attacks, which may more or less closely simulate the specific exanthematous eruptions. In the care of Dr. W. L. Cooper I saw a child who was an arsenal of diphtheritic anomalies. I saw it in consultation, when it appeared to be dying from diphtheritic croup. It had patches over the tonsils, nose, and pharynx; croup, pneumonia, and bronchitis; and at one and the same time had three typical rashes over the body. On the knees and thighs there were diffuse scarlatinal patches; on the belly, chest, and back an eruption discrete and crescentic, but a little more blue than measles; and on the face a triangular, red, swollen patch, with the apex at the right punctum lacrymale, and the base about three inches out on the cheek. This last form of eruption I have seen in eight cases of diphtheria; in some it has been single, in some double. It appears from the history to be an extension through the punctum of a diphtheritic inflammation to the cheek, and in its perfect form crudely represents a red butterfly.

"The nervous system, apart from its implication in the acute attack, affords a sequel of the disease which is not uncommon in a minor form, but rare in its most pronounced forms. This is the post-diphtheritic paralysis, which only recently has been recognized as a peripheral neuritis. It is familiar to us all in the form of paralysis of the accommodation and of the soft palate. Two years ago I had a case which in this connection is most interesting. The history is as follows: J. M., ten years old, had, two weeks before consulting me, a sore throat, which prevented him for several days from eating anything solid. This subsided, and he was brought to me for a marked disturbance of speech, which made it impossible for one to understand him. His voice was nasal in tone and vibratory. There were marked emaciation, ataxia, and total loss of patellar and cremasteric and umbilical reflexes. The muscles were so atrophic that at first I thought it might be a rare case of acute muscular atrophy; but there were no fibrillary twitchings, and the tenderness and flaccidity of muscle, with absent reflexes, led me to diagnosticate diphtheritic, peripheral neuritis. Five days later I attended him through an attack of pneumonia migrans. The recovery from both the neuritis and pneumonia was complete."

In examining the history of pneumonia in all its known varieties, we must not fail to notice one form which has not received general recognition, and that is rheumatic pneumonia, or limited and wandering hepatization of portions of the lung in the vicinity of acute rheumatic inflammation of the fibrous tissue of the bronchi. This affection entirely escaped notice, and failed to be distinguished from idiopathic pneumonia, until described in 1853 by Dr. Buckler, of Paris, in a monograph on "Fibro-bronchitis and Rheumatic Pneumonia," and again in 1882 in the "American Journal of the Medical Sciences," under the name of "Rheumatic Leuco-ino-itis." But even the latest works on the practice of medicine make no allusion to it, and it is probably almost unrecognized. Dr. Buckler aptly says: "When a new truth is dragged out of darkness and held up to the light, men, often to avoid the trouble of thinking, refuse to regard it as anything different from what they have been taught and are accustomed to."

The symptoms, briefly stated, are a dry cough, without physical signs, without pain in the chest; and, after a period varying from a few days to several weeks, the development of fine crepitus, followed by bronchial respiration in portions of the lung; with an intercurrent articular or muscular rheumatism, which, if occurring during the early stage, may supersede the cough, which returns when the rheumatism of the extremities disappears.

A failure to recognize this rheumatic pneumonia must seriously affect the prognosis, from the inevitable error in therapeutics.

Dr. Buckler makes the interesting statement that Dr. Black published a paper in the "Edinburgh Medical Journal" in 1854, wherein he says that, in examining the air-tubes microscopically, he had discovered crystalline particles of uric acid and urate of soda deeply imbedded in the thin, white, fibrous tissues.

Possibly most of us have seen something of the rheumatic pneumonia, or broncho-pneumonia, without recognizing it. It is only three weeks since I first read Dr. Buckler's article; and last week I was called to a boy with this disease, to which Dr. Buckler's researches had opened my eyes. He is Irish, nine years old. I saw him first December 28th.

He was in bed; pulse 105, temperature 98·8°; action of heart regular, but systolic souffle over cardiac region, and still louder over left back; respiration and percussion-sounds in front normal, and over right back; but percussion-dullness over the upper two thirds of left back, with moderately bronchial respiration and somewhat prolonged expiration over much of the same part, and moderate bronchophony about lower angle of left scapula. No râles. The history obtained from his mother was that after tramping with political processions at election-time (November 13th) he had had much general pain for several days, which was then superseded by a cough, of which he had recovered early in December, and continued pretty well till about the middle of the month, when, after another exposure on a very cold day, he began to cough again, and has continued ill till the present time. He has had some shortness of breath from the first attack in November, and sometimes pains in limbs; some expectoration latterly, but never red; epistaxis two days in the week before I saw him. Had been out more or less, and the day before I saw him had much dyspnœa after mounting the three flights of stairs leading to their rooms, and seemed so much worse that his mother gave him a sweat at night and kept him in bed next day, where I found him. She had given him castor-oil three times within a week. His tongue is pale and flabby. He has no articular pain now. He has never had rheumatism before, nor dyspnœa until the attack in November. His brother, aged twelve, has a loud systolic souffle and violent action of the heart, with dyspnœa on exertion, and epistaxis, dating from acute articular rheumatism in infancy.

Directions: To remain in bed, on vegetable diet chiefly, and take ten grains of salicylate of sodium four times a day.

*December 30th.*—No dejection for three days. Coughs little. Has taken six doses of the salicylate; vomited the last one last evening. Has slept much. No pain. Pulse 100, temperature 98·4°. Bronchial respiration and dullness have disappeared. No râles. Heart sounds unchanged.

Continue salicylate three times a day. Laxative pill.

*January 1, 1889.*—Cough much less. Pulse 108. Bowels moved yesterday and the day before without pill. Had pain in cardiac region for four hours last evening, and whistling respiration (by his mother's report). Now percussion-sounds normal over whole back. On very careful auscultation, the respiration over the left back, especially in the central portion, is louder than on the right side, perhaps a little rude, but without any sound of expiration, and no râles. The cardiac souffle is decidedly less loud both in front and behind. He vomited his medicine this morning, with some mucus.

*13th.*—The boy has been out several times. No cough for a week past. Sometimes dyspnœa; none to-day. Has had no rheumatic pains. Respiratory sounds and percussion resonance normal, heart's action excessive in force, with souffle as before. Is rather pale, with pale and flabby tongue. Has continued salicylate twice daily till two days ago. May now take tincture of chloride of iron and dilute phosphoric acid.

The history of anginas which I have undertaken to present would not be complete did I omit to relate some cases in which follicular amygdalitis has been infectious, under peculiar conditions, in public institutions. These are presented to me by Dr. Eliza M. Mosher, from her experience as physician to the Massachusetts Reformatory Prison for Women, and at Vassar College, where for three years she and Dr. Lucy M. Hall held jointly the professorship of physiology and the office of physician to the college.

She says:

"During my two years' service as physician to the Massachusetts Reformatory Prison for Women 154 patients were admitted to the hospital with follicular amygdalitis; 120 of these cases occurred between October 1, 1878, and May 1, 1879.

"The disease was exceptionally severe in many instances, due no doubt to the fact that the patients were women whose systems were much impaired by intemperance and debauchery. In spite of this, however, the course of the disease was almost exactly the same in all cases. No complications occurred, and all recovered, the length of the illness being from three to seven days, according to the severity of the attack, the recuperative power of the individual, and the involvement of both tonsils simultaneously or consecutively, the latter increasing the time spent in hospital by one or two days, other things being equal.

"Briefly, the symptoms were as follows: Chilliness alternately with flashes of heat, backache, and 'pain in all me bones,' a full feeling in the head, with or without headache; temperature 101° to 103°, pulse 96 to 120+. This condition was almost invariably first manifested toward evening or at bedtime, and there was often no complaint of sore throat at this stage. When examined the tonsils were found a little swollen and shining, with general redness of the pharynx. The speech was characteristic—so much so that in numbers of instances I made a diagnosis before asking a question; it was a little thick, and gave one the impression of stiffness of the vocal apparatus.

"The morning following, the patient was usually too ill to rise, throat very sore, and deglutition difficult; saliva ropy and tenacious, tongue coated, usually moist and white, in the more severe cases brown and dry. One or both tonsils were dotted with white spots, or the surface was lightly covered with a gray exudate, which might have been mistaken for a diphtheritic membrane. Again and again I isolated cases, expecting them to develop into diphtheria, only, however, to find them following the regular course and convalescing in a few days.

"The severe constitutional disturbance left most of them weak and anæmic after an attack, requiring iron or some other reconstructive tonic for a week or so.

"The plumbing of the building was in a bad condition during the winter in which this epidemic occurred. It was all remodeled during the next year, and fewer cases have occurred there since.

"During my service at Vassar College the family numbered about the same as that at the Reformatory—about 400. Sixty cases only of amygdalitis occurred in three years. Here I proved, to my own mind at least, that prompt isolation of cases materially lessened the number. Three or four young ladies occupy a parlor in common, their sleeping-rooms opening from it. If one had an attack of amygdalitis and remained in her room, the others were almost sure to have a similar attack in about four days, whereas when she was promptly isolated they usually escaped.

"Here, as at the Reformatory, the course of the disease and its duration were uniformly the same, although the cases were seldom so severe. There were no complications and no sequelæ, but tonics had to be administered for some time afterward, or the general health suffered. After a trial of nearly all the remedies recommended for this disease, I settled down into the old-time method of treatment, consisting of a saline aperient, followed by quinine and tincture of iron, with or without an astringent and disinfectant gargle."

Dr. Jacobi has been misquoted by Professor Fraenkel as saying that "diphtheria is spread by adults suffering from angina lacunaris." * He takes occasion to say, in a paper read before the New York Academy of Medicine, November 16, 1886: "What I did say, and do say, is this: that what in an individual case was called by the name of follicular amygdalitis and then gave rise to diphtheria, was diphtheria, and therefore produced diphtheria. Nor do I say that every case of follicular affection of the tonsils is diphtheria, and that diphtheria in general is spread by follicular amygdalitis in general; but I claim that the name of follicular or lacunar amygdalitis is but a subterfuge for the lack of a correct or complete diagnosis. There are cases of follicular amygdalitis of a catarrhal, purulent, fibrinous, and diphtheritic character, and its name ought to be dropped from our nomenclature, because of its giving rise to mistakes, unless it be complemented with a descriptive adjective." †

Follicular amygdalitis, the catarrhal inflammation which was briefly described in the early part of this paper, although under some circumstances infectious, as has just been shown, is not diphtheria. But the occasional uncertainty of diagnosis at the outset makes isolation of the patient sometimes desirable. In private houses there is seldom any reason for such isolation, seldom any doubt of the nature of the affection. The markedly sudden onset, with fever and pain, the early swelling of the tonsils, their color, and the unevenness of the surface from the swelling of numerous follicles even before the white muco-purulent secretions appear—so different from the smooth surface and slight swelling of the tonsils and soft palate seen at the commencement of diphtheria, with their peculiar raspberry redness, looking as if the color had been laid on with a brush—generally remove all difficulty in diagnosis. And the further course of amygdalitis, with the early recovery, confirms the diagnosis. And in the history of the epidemic at the Woman's Reformatory, the fact of one hundred and fifty-four cases occurring without subsequent paralysis or nephritis in any one, adds strength to the conclusion that the disease bore no relation to diphtheria. ‡

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# A PHOTOGRAPHIC STUDY OF THE LARYNGEAL IMAGE

## DURING THE FORMATION OF THE REGISTERS IN THE SINGING VOICE.#

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Two years ago I had the honor of presenting a paper to this Association, in which I made an effort to explain, to

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* "The Medical Record," New York, November 27, 1886, p. 593.

† *Ibid.*

‡ I am well aware that Dr. William P. Seymour is the prime inspiration of this paper, and deeply regret that he should have left to me to offer what he is so eminently qualified by nature, education, and long experience to present in a much fuller and more satisfactory form. He owes the medical profession a comprehensive treatise on diphtheria, presented with a breadth which he more than any other man I know is qualified to give.

# An abstract of a paper read before the American Laryngological Association at its tenth annual congress.

some extent, the reasons for the diversity of opinion existing among writers on voice production, regarding the appearance of the larynx during the formation of tones in the singing voice. The photographic demonstration made at that time served to show, at least, that nature has many ways of accomplishing the same result, and that different larynges do not always act exactly alike while producing the same tones, even in the same class of voice. To-day I propose to present more facts gleaned from the study of a very large number of photographs taken since then.

There are many movements which take place in the larynx which may be seen by the eye but which can not be shown in photographs, and again there are many changes which the eye can not see or the mind grasp which are caught and held upon the sensitive plate. The value of photography in the study of the physiology of the larynx lies in the fact that with its aid the exact conditions occurring at any given time are caught and held, and we are thus able to compare two or more conditions at the same time and at leisure.

The size of an object photographed upon a sensitive plate depends upon its distance from the lens. The shorter the distance between the object and lens the larger will the image appear in the negative, and the longer the distance the smaller the image. In laryngeal photography the size of the image of the larynx depends mainly upon the position of the lens—in other words, upon the focus used; but it does not depend entirely upon this, for the larynx occupies different positions in the neck while singing notes in different parts of the scale. The difference, however, is so slight that a change of focus is rarely needed in order to obtain perfectly sharp photographs in any part of the gamut.

If the larynx rose as the voice ascended the scale, and occupied the highest position in the neck while the highest note was being emitted and the lowest while the lowest note was being sung, then with the same focus the image would appear largest in the highest note and smallest in the lowest note. This, however, does not appear to be the case. As will be shown in this demonstration, physiological variations in the size of the cavity of the larynx occur at different points in the scale. If the epiglottis or any of the other structures of the larynx should appear larger in one photograph than in any of the others of the same subject, it would, of course, be apparent that the image as a whole was increased in size. In this investigation, when two or more photographs were taken of one larynx, the same focus was always employed. The relative sizes of the photographs will be seen upon the screen, for, though enlarged positives were made from them, the degree of enlargement was always exactly the same.

It would, no doubt, be more instructive and comprehensive if I should compare the results of this investigation with the most generally accepted theories of the action of the larynx as seen in the mirror, but this would be impossible in the short time at my disposal to-day.

The study of the singing voice has such a broad range that it will be impossible for me to deal with more than one of its divisions at this time. The limited time in which I must speak will suffice only for the consideration and demonstration of the appearance of the larynx in the formation of the *registers* of the voice.

First of all, let us understand what is meant by the term register. Garcia defines it as a " series of consecutive homogeneous sounds going from low to high produced by the action of a certain mechanism." Behnke says that " a register consists of a series of tones which are produced by the same mechanism," and Sir Morell Mackenzie's definition is " the series of tones of like quality producible by a particular adjustment of the vocal cords." These definitions imply that different mechanisms are necessary for the production of the voice in different portions of the scale, and that each series of tones produced by the same mechanism represents what is known as a register.

Writers are generally agreed as to what is meant by a register, but there is a great lack of uniformity in their belief as to their number as well as to the appearance of the larynx in their formation. Some believe that there are but two registers. Others are of the opinion that there are three, and others again insist that there are five. My own opinion is that the female voice has three registers and the male voice two. Having stated my belief, I will now proceed to demonstrate by means of photographs, to be shown upon the screen, the changes which occur in the larynx at the breaks from one register to another, and the points at which these breaks occur. I will consider first the action of the female larynx. [Several hundred photographs were taken during this investigation, twenty-five of which, showing the larynges of thirteen subjects, were thrown upon the screen during the reading of the paper. They showed the changes which occurred in the mechanism of the larynx at the points of transition from one register to another.]

While most of the photographs which will be exhibited to-day were being taken, the tongue of the subject was held out, for when it remained in the mouth the anterior insertions of the vocal bands could rarely be exposed. I am unable to detect any difference in the relative positions of the various structures of the larynx whether the tongue is protruded or remains in the mouth.

The two photographs now seen upon the screen were taken of the larynx of a contralto while singing F sharp, treble clef, top line. The first of the pair was taken while the tongue was in the mouth, and the second while it was protruded. The only differences to be seen are those caused by the shadows, the slight difference in the position of the epiglottis—it being a trifle more elevated in the second than the first—and that caused by the difference in the force of the air-blast. The blast was greater when the tongue was in the mouth, and therefore the space between the vocal bands is a little wider in the first of the pair. It is easier to sing a loud tone when the tongue is in than when it is held out, and when it is held out the epiglottis is raised higher than when the tongue is not protruded.

A number of the subjects used in this investigation were not aware of any sudden change in quality in any part of their singing voices, nor could I detect it while listening to their voices as they sang up the scale, or see sudden changes in the mechanism while looking sharply for them in the mirror; but, nevertheless, such changes were invariably disclosed in the photographs taken of four or five notes below and above the points at which they are supposed to occur. Others, again, were not conscious of a change in sensation, though a change in the quality of the voice could be heard and a slight change in the appearance of the glottis seen in the mirror, but the character of the change could not always be positively ascertained until it was disclosed in the photographs. When the notes at which the changes occurred were determined by the photographs and the changes themselves were displayed, they could easily be distinguished by the eye with the aid of the laryngoscope, but the contrast between the mechanism of the vocal bands before and after the break was never as clearly shown in the laryngoscope as in the photographs.

In the series of photographs which I took a number of years ago I failed to find evidences of sudden changes in the mechanism of the vocal bands, and in the paper already referred to, which I read before this Association two years ago, I made use of these words: "That certain changes do occur in many larynges while singing up the scale can be easily demonstrated; . . . but these changes are, I believe, almost always gradual, not sudden." In another part of the paper, when referring to a portfolio of photographs, I said: "The portfolio contains a soprano, contralto, tenor, and bass series, all of which bear me out in the statement that sudden changes in the positions of the vocal bands, as the trained voice mounts the scale, are rarely apparent." An examination of the series of photographs of female larynges contained in the portfolio referred to, reveals the existence of sudden changes in every instance. I am therefore forced to the conclusion that, as I was ignorant of the nature of these changes, I did not recognize them when I saw them.

A slight change in the shape of the glottic chink may easily escape notice unless one is familiar with the exact conditions to be looked for and the neighborhood in which they may be found. Judging from the slight difference in the appearance of some of the larynges which have just been shown, it is scarcely to be wondered at that changes in the mechanism of the vocal bands are frequently overlooked in the mirror. One of the main motives for the preparation of this paper was to supply positive information concerning these changes by demonstrating their occurrence.

A very careful search for changes in the mechanism of the vocal bands in the larynges of fifty or more female singers has failed to reveal more than two—namely, at or near F sharp, treble clef, first space, and at or near F sharp, treble clef, fourth line. That these changes occur and are apparent to the eye is conclusively proved by the photographs.

It is believed by many writers that when the voice breaks from one register to another the epiglottis is suddenly raised. I am of the opinion that, instead of its being suddenly raised, it is suddenly depressed. My reason for this belief is that, in almost every instance, I have found it lower in the photographs showing the change than in those representing the note immediately preceding it. In a number of instances I found it impossible to expose the entire length of the vocal bands at the note on which the change occurred, though the anterior insertions could be easily seen during the production of the note before the break. In such cases the photographs showed that when the epiglottis was well raised the change had not occurred, but the mechanism of the lower register was continued upward. When, however, the change in the mechanism was displayed, the epiglottis was depressed enough to cut off a view of the anterior commissure.

During the production of the lower notes of any voice the vibrations of the vocal bands can usually be seen, but in the middle and upper notes they can not be detected. As to what portions of the vocal bands vibrate in the middle and upper notes neither the photographs nor inspection with the laryngoscope give any positive information. From what has already been demonstrated to-day, and from the demonstration of two years ago, we must conclude that there are no positively characteristic appearances of the glottis in the different registers or different portions of the scale. In the lowest notes of the male voice the chink may be elliptical or open widest behind. In the middle and upper notes the chink may be linear or open widest behind. In the falsetto register the chink may be open in its whole length, or stop-closure may occur in front, or behind, or both. In the lower register of the female voice there is something like uniformity, for the chink is almost invariably open widest behind. In the middle register it may be linear or elliptical, or the edges of the vocal bands may be curved inward. In the upper register, as we have seen to-day, the chink may be open in its entire length, or stop-closure may occur, but of that more will be said while dealing with another portion of the subject which it was my original intention to consider to-day—namely, the appearances of the larynx in the production of variations in the pitch of the voice. Time will not permit it to be properly presented this afternoon.

The conclusions which may be drawn from this study are:

1. That protrusion of the tongue does not alter the laryngoscopic appearances.

2. That in the female voice there are three registers. This renders two changes necessary in the mechanism of the vocal bands. These changes are always accompanied by changes in the quality of the voice. The lower break occurs at or near F sharp, treble clef, first space; and the upper break at or near F sharp, treble clef, top line. The change of mechanism consists of a shortening of the vocal bands, an appearance of an increase in their tension, and a change in the shape of the chink of the glottis. The change in the mechanism is usually accompanied by a backward movement of the epiglottis.

The change in the shape of the chink at the lower break consists usually of a wider opening of the ligamentous portion of the glottis, and partial or complete closure of the cartilaginous portion of the glottis. At the upper break the chink may simply be reduced in length and width, or a part of the ligamentous and all of the cartilaginous portion of the glottis may be closed.

3. That in male voices possessing the falsetto range there are two registers. The transition from the chest to

the falsetto usually occurs somewhere between C sharp, bass clef, first line above staff, and the F sharp above.

The change in the mechanism consists usually of a sudden shortening of the vocal bands—though occasionally they are increased in length—an appearance of increased tension, and an alteration in the shape of the glottic chink. The edges of the vocal bands may be brought into apposition in front or behind, or both in front and behind, or the chink of the glottis may be open in its entire length, in which case the shape is altered, but the area of the space between the vocal bands is about the same as is necessary for the production of the note before the break.

The falsetto tones are therefore produced by stop-closure and change in the length and tension of the vocal bands, or by change in the length and tension without stop-closure.

## Correspondence.

### LETTER FROM PARIS.

*The Medicinal Effects of Unroasted Coffee.—Faradization in Ascites.—Therapeutical Novelties.—A New Use for Bergeon's Gas Apparatus.—Electricity and Hydrotherapeutics in the Paralysis of Pregnancy.—The Exhibition of Hysterical Patients.—Strophanthus as a Remedy in Cardiac Affections.*

Paris, *December 25, 1888.*

The medicinal properties of coffee in the crude state have not received much attention from the medical profession, as its effects have been constantly studied in the roasted condition. Unroasted coffee has been employed in intermittent fevers, and Dr. Chapman, of Philadelphia, many years ago, spoke of its merits in calculous nephritis. Now a writer in the "Montpellier médical," Dr. Landarrabilco, brings up the subject again. He has used raw coffee since 1866, with great success, in the treatment of gout, gravel, nephritic colic, and megrim. He takes one half of Martinique coffee, one quarter of Mocha, and one quarter of Bourbon; these are mixed and made into packages of twenty-five grammes each. One of these is simply introduced into a glass of water, and is allowed to macerate for from ten to twelve hours. In the morning it is stirred and strained and drank cold, without sugar, a short time before breakfast. A number of cases are given in which nephritic and hepatic colics have been cured. In biliary calculi, complicated with diabetes, the hepatic colic and sugar in the urine ceased after five weeks of this simple treatment by raw coffee. It is explained that the green coffee is first of all a good diuretic, and also that such an infusion has a special action in dissolving biliary calculi. Green coffee certainly acts on the liver, either by stimulating its various functions or by modifying the bile secretion; but the author claims that the action of the solution of raw coffee-grains is to stimulate the hepatic cells themselves, and thus making the bile fluid, while it descends the ducts, soften the calculi, and cause a discharge of certain products that gives relief to the patient.

The treatment of ascites by faradization of the abdominal walls has come into use again here, with some considerable success, the induced current being used. One pole is placed in the lumbar region and the other is passed over the different parts of the abdomen; the results are often surprising. There is usually an augmentation of diuresis, diminution in the size of the belly, and cure of the ascites after five or ten applications. It comes back again, however, if the cause is renal in origin. In any case the treatment is simple and seems to be harmless, so that it can be tried in all forms of ascites. Cases are given of ascites from tubercular peritonitis, and also of that form arising from a tumor of the spleen, that were completely relieved. The current used must be strong enough to cause decided muscular contraction, and this action should be kept up for from five to fifteen minutes twice a day, or three times when possible. Erb explains that the electric current produces an excitation of the nerve-plexus which excites the absorbent vessels to strong action, and the serous accumulation is thus carried off. Be this as it may, the treatment is simple and one that every one can try, so that its merits can soon be tested, and medical science have some definite methods that will raise it above an art.

Therapeutical instability is a reproach to modern medicine. Every few months or weeks we are treated to some new and sure cure which after a few months of trial dwindles away out of sight, or at least into non-usage, from a want of merit in the article, or a want of faith on the part of the physician. This feverish rush to false statements in regard to new therapeutical measures has come to this, in France at least, that but very few of our best men have any faith in drugs, so that to-day we do not know how to treat a typhoid fever, or almost any other known malady, according to an accepted method; all is uncertainty. One professor gives one system, and another says it is useless. It has been said that "pulmonary phthisis has no treatment because it has too many." Whose fault is it? Well, it would seem to be that of the uncertainty resting on the great revolution of the microbe doctrine. The chains that bind us to the old medication of the past are still around us, and the newer style of anti-microbe treatment has not yet entirely taken its place as a science, so that wise and sober doctors of experience are hesitating in the hope that the present transition stage of medicine will soon be over, and that we can proclaim medicine as an exact science. For the moment we can only say *experientia doceat*, and do the best we can.

The gas apparatus used by Bergeon and others for phthisis, while it is of no use for that purpose, has found a new application in the uncontrollable vomiting of pregnancy. M. Rose says that this form of uncontrollable vomiting can be cured by using this apparatus and injecting carbonic-acid gas *per rectum.* The idea is that the cause of such troubles has its point of departure in the uterus itself, so that it is a reflex action, and at first M. Rose projected the gas on to the os uteri, but he has since found that it is better to proceed *per rectum.* While upon this subject we must speak of a most interesting case of M. Desnos, who is one of the oldest physicians to Charity Hospital here. He had a patient, a woman, who during pregnancy fell into a state of rapid muscular atrophy. The patient conceived in February, 1887, when she had already been much weakened by a hæmorrhagic metritis, and from the first she had violent abdominal pains, followed by digestive troubles, with vomiting that could not be stopped. Besides this, she had an extensive alopecia. In June she was able to take a little food, but now there appeared a complete impotence of the lower members; the muscles were flabby, and the paraplegia was almost complete; a rapid atrophy took place; the muscles of the calf of the leg had almost entirely atrophied, while the whole inside leg muscles, as well as those of the posterior portion of the thigh, were almost gone. Several days afterward the superior members began to be affected with an abolition of sensibility, which was accompanied by tingling in the muscles. There were no rectal or bladder troubles, contractility was not entirely destroyed, and there was no elevation of temperature. It was considered best to induce premature labor, and this was done in July last. The confinement was a regular one, and rapid amelioration followed; electrization of the muscles and hydrotherapy was the treatment used. This last was at first the wet sheet, and at present the woman is restored to health with her usual strength. The question is, Was this a case of puerperal paralysis, which has been spoken of as due to uræmia? But there was no albumin in the urine, or but very slight traces of it, when the patient was most ill. Was it hysteria? Not likely, as the patient did not present signs of that trouble. Could it be a reflex irritation from the uterus? This last idea does not seem possible, owing to the profound alteration of the muscles. It was probably a neuritis of a general parenchymatous order, or a myelitis of the anterior horns, but it is very difficult to say what the precise nature of the trouble was, except that it was connected with the pregnancy, and that electrical and hydropathical treatment was of great use to the patient.

M. Gilles de la Tourette calls attention to the danger of allowing theatrical representations which present entertainments showing off what are really medical patients suffering from hysteria in its many forms. It has been constantly noticed by the able *chef de clinique* of Professor Charcot's service in the Hôpital Salpêtrière that, after exhibitions of this kind, given by all sorts of so-called magicians, electro-magnetic operators, hypnotists, etc., there is a real epidemic of hysteria exhibited in patients brought to the hospital. The danger is a real one, for these poor, convulsive, nervous people are for months afterward incapable of attending to their occupation or of gaining their living. M. Charcot has shown that hypnotism is not a natural phenomenon, but a real experimental neurosis, which should never be brought about except by a physician who has a real curative end in view. Certainly, no one forces the susceptible people who frequent such shows to do so, but it is usual to place a railing on precipices to prevent people who are susceptible to vertigo from falling over, and so such exhibitions should be compelled by law to cease, except in the interest of science. It is much more easy to prevent than to cure in all cases. Many of the nervous manifestations are hidden in families, but some have gone to law about the matter, and have obtained damages from the professors (!) of magic, etc., whose exhibitions have provoked the symptoms in the patient. The *Société de médecine legale* passed the following resolution after M. de la Tourette's article: "We hope that public exhibitions of hypnotism will be forbidden by law, owing to the numerous accidents they produce in innocent persons, which compel them to seek medical treatment for months."

A good deal is being said at present in Paris in regard to strophanthus as a heart remedy, but it is well to be careful in giving this drug, as there are such a large number of its varieties that the best judges can not agree which is the best. So far, the *Strophanthus hispidus* and a *strophanthus* called *Kombé* are the two used here, but in tinctures they have no very remarkable action. It may be that strophanthine and extracts of strophanthus are better, but they are dangerous drugs that are difficult to obtain pure, and their action is not certain. Many samples shown of strophanthine are simply impure extracts, which have a very different physiological action. It is probable that a pure crystallized strophanthine will be produced, but its constant production and chemical study are as yet to be made, not to speak of clinical experience, which is also as yet wanting.

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**Action of Chloride of Ethylene on the Cornea.**—"Chloride of ethylene is often used by physiologists abroad to anæsthetize dogs. M. Dubois has observed that the cornea of the animal thus anæsthetized undergoes a change some hours after recovering consciousness, a bluish opalescent appearance being developed. This opacity is not followed by necrosis, and at the end of some months the cornea clears from the periphery toward the center; the change is believed to be due not to inflammation, but to a true œdema."—*Lancet.*

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## THE ANÆMIAS.

This class of disease, characterized by more or less profound blood-changes, is one of peculiar interest. A discussion of the ætiology must be considered suggestive only until verified by further observation. Loomis is sufficiently conservative to state that simple anæmia may be caused by anything that decreases the number of red blood-corpuscles or interferes with their production; that chlorosis is without assignable cause; that the essential nature of pernicious anæmia is unknown, and that the ætiology of leucocythæmia can not be determined. In the "Practitioner" for August, 1888, Dr. William Hunter adopts Coupland's classification of symptomatic and idiopathic anæmia, discarding the terms primary and secondary as misleading. In no condition can anæmia be really primary; in every case it must be secondary to changes in some organ or organs, whether these changes are manifest as in wasting disease, or obscure or difficult of recognition as in chlorosis. Hunter uses the term anæmia in its widest sense to include every condition, whether local or general, in which the blood is either qualitatively or quantitatively impaired. Idiopathic anæmia is, therefore, a condition resulting either from loss of blood or from diminished production or increased destruction of it, the latter disorders of hæmogenesis or hæmolysis being unaccompanied by any corresponding changes in other tissues of the body. To be styled idiopathic, any given case of anæmia must comply with the following conditions:

(1) The changes in the blood (as determined by actual examination) must not only apparently but actually constitute the most marked feature of the disease.

(2) The other chief symptoms of the disease must in great part be referable to the altered condition of the blood.

(3) With regard to post-mortem appearances, the changes in the blood, whether alone or in association with changes in the blood-forming (hæmogenic) or blood-destroying (hæmolytic) organs, constitute the characteristic morbid feature.

A comparison of the anæmia of phthisis with that of chlorosis or leucocythæmia illustrates the difference between the symptomatic and idiopathic forms of the disease. In phthisis the blood-changes, however profound, do not by any means constitute the most marked clinical feature. The other symptoms—cough, night-sweats, fever, expectoration—are not dependent on hæmogenic or hæmolytic disorder. The condition of the blood throws no light upon the nature of the disease or its seat. Hence the anæmia of phthisis is rightly classed as symptomatic. In chlorosis, however, the blood-changes, especially the great diminution in hæmoglobin in comparison with the slight lessening in the number of red blood-corpuscles, constitute its chief clinical (and in this instance the chief pathological) feature. The pallor, giddiness, debility, breathlessness, palpation, etc., can be shown to depend on disordered blood-formation, which is also the cause of the blood-changes themselves. The gastro-intestinal disturbances generally associated with chlorosis have been shown (Bunge) to be due to the excess of decomposition products in the intestine accompanying the characteristic constipation. These break up the iron compounds of the food, and tend to prevent due absorption of iron in its only assimilable form, and so lead to impaired blood-production. Chlorosis in girls is, in fact, an idiopathic anæmia, hæmogenic in its origin, and is due to a deficient supply of assimilable iron at a time when the recent onset of menstruation has removed a certain proportion of the already small supply of that element present in the body. So, too, in leucocythæmia the blood-changes—the abnormal increase in the white blood-corpuscles and a diminution in the red—constitute the chief clinical feature, and serve to account for the other symptoms, and, with the alteration in the blood-forming organs, present the chief morbid changes discoverable after death. These facts place leucocythæmia among the idiopathic anæmias.

Let us now apply these considerations to the case of pernicious anæmia. Here the blood-changes constitute the most marked characteristic of the disease. They suffice in themselves to account for most of the other features—the extraordinary pallor, weakness, dyspnœa, palpitation, the fatty degeneration of the vessels with attendant hæmorrhages—and all this without any emaciation.

In a great measure its obscurity rests upon the variety of symptoms. There is marked pallor, sometimes a peculiar lemon-colored or icteric tint, with occasional attacks of jaundice, frequent gastro-intestinal disturbances, such as dyspepsia, vomiting, constipation, or, what is nearly as common, diarrhœa. There may be more or less œdema or puffiness about the legs and ankles, associated with hæmorrhages from the nose, gums, bronchi, and female genitals, together with ecchymotic and petechial spots and vibices upon different portions of the body. Retinal hæmorrhage, demonstrable during life, has been considered almost positive proof of the existence of this disease. An ophthalmoscopic examination is always in order in any profound anæmia, and throws light upon the treatment. Cardiac, venous, and arterial murmurs exist, of greater intensity than in simple anæmia. The heart is always feeble, and in severe cases intermittent in its action. Palpitation, dyspnœa, and attacks of syncope result from the oligocythæmia and attendant exhaustion. The muscles are soft and relaxed, and muscular weakness may be so extreme as to force the patient to take to his bed; and yet there is often little or no emaciation. There is recurrent pyrexia that is usually followed by an aggravation of all the previous symptoms, and a persistent tendency to a fatal issue.

While malignant disease in certain situations may predispose to pernicious anæmia, this association is as yet considered an accidental coincidence rather than any true pathological relation. So, too, the presence of intestinal worms; the workers in the St. Gothard tunnel presented apparently all the characteristics of pernicious anæmia. These disappeared in most cases on the removal of the parasites. In Finland, where the *Bothriocephalus latus* abounds, the disease occurs in an intractable form among persons not infested. It is quite possible that the conditions making the human intestine a ready habitat for parasites in one case may also bring about quantitative and qualitative blood-changes in another. Along this line of thought there may yet be some explanation of the relationship between anæmia or chlorosis and exophthalmic goître—a relation that many observers maintain always exists. It is not improbable that each essential form of anæmia may have a varying ætiology, resting upon an anatomical basis in some instances and a purely chemical one in others.

The principal changes in the blood that seem peculiar to pernicious anæmia are the following:

(1) The *marked oligocythæmia*, sometimes to a very high degree and far in excess of that ever found in symptomatic anæmia. This oligocythæmia is, in certain cases at least, entirely independent of the occurrence of hæmorrhage.

(2) The relative *richness in hæmoglobin*, in comparison with the high degree of oligocythæmia that is frequently met with.

(3) The presence in the blood of small yellowish globules or *microcytes*, distinguishable by their form and color from the various other small colored elements present in all forms of anæmia.

The diminution in the number of corpuscles is something extraordinary, varying in different cases. In almost all, however, the number of corpuscles is reduced from the normal standard of 5,000,000 in a cubic millimetre (c. mm.) to 2,500,000, or less. In not a few it falls to 1,000,000, or even to 500,000, in a c. mm. This latter number has been thought the lowest compatible with life, or at least with recovery. Yet there is one case on record where it fell to 143,000 in a c. mm., and yet the patient recovered. In a few recorded cases of chlorosis the oligocythæmia was as great as 30 or 40 per cent.; but, generally speaking, the average number of corpuscles is over 3,000,000. In leucocythæmia, the number of corpuscles was found to be 1,150,000 in one case, in another 2,160,000, and in a third only 500,000. In the anæmia of malaria, Hayem found the number of corpuscles as low as 1,182,700; and in that of purpura hæmorrhagica even lower—namely, 1,000,000. Pallor bears very little relation to the degree of oligocythæmia. Judging by pallor alone, the anæmia of wasting disease is often so profound as apparently to entitle it to be termed pernicious. In phthisis, the diminution of corpuscles is neither regular nor constant. The average is something over four millions. The change is but little more marked in malignant disease. In six cases of carcinoma the average equaled 3,660,000. Lead poisoning, with its marked pallor, gave 3,200,000 in a c. mm. During inanition resulting from starvation, the changes in the blood are relatively less marked than the changes in other tissues. So far from being diminished, the number of corpuscles in a c. mm. of blood is actually increased. The result of this comparison goes to show that the oligocythæmia of pernicious anæmia is far in excess of that accompanying malignant and wasting disease. Oligocythæmia in all other forms of anæmia rarely reaches a diminution of 50 per cent., usually much less, while in this disease it constantly reaches 80 per cent. or more. A factor that might account in a measure for this state of things in pernicious anæmia is often absent in malignant disease, and that is the occurrence of hæmorrhages more or less frequent and copious. This will do more than any other adventitious condition to bring about profound anæmia, pallor, and debility. Opportunities for observing the effects of loss of blood in man are frequently met with, as in the hæmatemesis of gastric ulcer, the epistaxis of Bright's disease, or the hæmorrhage of malignant or fibromatous disease. The anæmia in these cases is profound and closely resembles the form termed pernicious; but the other signs—the gastro-intestinal disturbances, the more or less marked jaundice—are not present. Repeated and copious bleedings fail to produce in animals anything that approaches the degree of oligocythæmia so frequently found in true pernicious anæmia. In dogs it is impossible to reduce the number of corpuscles by artificial hæmorrhage below 1,000,000 in a c. mm. without causing death. Mere loss of blood fails to explain this feature—oligocythæmia—that is present for long periods in marked degree when no hæmorrhage has occurred. Life is often compatible, as has been demonstrated, when there are only 700,000 or 800,000 corpuscles to the c. mm. Pernicious anæmia is characterized by a rapidity of progress and an intensity that can not be accounted for by any failure of nutrition however profound, or any defect in the blood-forming functions. The extraordinary degree of oligocythæmia points most strongly to the hæmolytic origin of the disease. The richness of the blood in hæmoglobin is so marked that one observer considers it pathognomonic of pernicious anæmia when associated with marked diminution of corpuscles. Its presence in any case would serve to distinguish between this disease and anæmia resulting from loss of blood, for in hæmorrhage the diminution of hæmoglobin is greater than the diminution in corpuscles.

The changes in the form of the blood-discs (poikiocytosis) are not of particular importance, depending as they do on the degree of hydræmia present. Microcytes are present in the majority of cases of pernicious anæmia at some period during its course, varying in number at different times. They are remarkable for their small size, their perfectly spherical form, and their deep-yellow color. They resemble small drops of oil. One view of their origin is that they are imperfectly developed red blood-corpuscles, while another is that they are the products of blood-destruction. As in some other diseases, in pernicious anæmia there is an absence of the formation of *rouleaux* in the blood when drawn, and the occasional presence of nucleated red corpuscles. There is no increase of white corpuscles, or granular elements, or blood-plates, so common in phthisis and other wasting diseases. The plasma presents two points of special interest—excessive hydræmia and low specific gravity.

In all symptomatic anæmias, such as are associated with ordinary organic disease, the blood-changes are but little, if at all, more marked than those found in other tissues, and are primarily referable to defective nutrition and to failure in hæmogenesis. In pernicious anæmia the changes in the blood are essentially hæmolytic. They are due to excessive destruction of the blood, while hæmogenesis is so little interfered with that it is generally in excess of the normal. Even with this knowledge, the practical question remains, How are we to determine whether a given doubtful case is one of pernicious anæmia or not? With the single exception of the disproportionate richness of the blood in hæmoglobin, there is scarcely one feature of the disease that is peculiar and characteristic. Each of its features may in some form be singly presented in other conditions. But this apparent similarity ceases when we find these single symptoms combined in a certain association. This combination or association is what the diagnosis is based upon, due consideration being given to each separate feature and to their relation to each other. To recapitulate, marked oligocythæmia, increased richness of hæmoglobin, the presence of microcytes, pronounced hydræmia and low specific gravity of the plasma, together with gastro-intestinal disturbances, attacks of jaundice, fever, no marked emaciation, extreme pallor and muscular weakness, make up a picture that is quite unique and certainly entitles pernicious anæmia to the rank and distinction of a clinical and pathological entity.

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## *MINOR PARAGRAPHS.*

### THE MARINE-HOSPITAL SERVICE.

The many friends of Surgeon-General Hamilton, as well as sanitarians who have appreciated his administration of quarantine affairs, will regret to hear of his contemplated resignation from the service to assume the editorship of the "Journal of the American Medical Association." It is an open secret that the pay attached to the office of Surgeon-General of the Marine-Hospital Service ($4,000) is inadequate, judged either from the standpoint of the responsibilities of the office, or from a comparison with the pay and allowance of the Surgeon-General of the Army or Navy. On the 10th inst. a joint resolution was favorably reported by Senator Cullom, from the Committee of Commerce, making the pay and allowance of the Surgeon-General of the Marine-Hospital Service the same as that now allowed by law to the Surgeon-General of the Army. This would raise the salary to $5,500, with an allowance of $720 per annum as commutation for quarters. While even this sum is insufficient compensation for the responsibilities of either office, in the case of the Marine-Hospital Service it will be an improvement on the present condition, and will, we trust, be a sufficient inducement for Dr. Hamilton to remain in the position which he has filled with so much benefit to the country and credit to himself.

### THE RIGHT OF A STATE TO REGULATE THE PRACTICE OF MEDICINE.

After stating the case of Dent *vs.* The State of West Virginia, which involves the validity of the statute of that State requiring "every practitioner of medicine in it to obtain a certificate from the State Board of Health that he is a graduate of a reputable medical college in the school of medicine to which he belongs; or that he has practiced medicine in the State continuously for the period of ten years prior to the 8th day of March, 1881; or that he has been found, upon examination by the board, to be qualified to practice medicine in all its departments," and making "the practice of or the attempt by any person to practice medicine, surgery, or obstetrics in the State without such certificate, unless called from another State to treat a particular case, a misdemeanor punishable by fine or imprisonment, or both, in the discretion of the court"—Mr. Justice Field, of the Supreme Court of the United States, affirmed the decision of the Supreme Court of West Virginia, holding that a State has the right to pass laws regulating the practice of medicine or the qualities of medical practitioners within its limits. The defendant based his claim for a review of judgment on the ground that the statute of West Virginia is unconstitutional, the unconstitutionality asserted consisting in its alleged conflict with the Fourteenth Amendment to the Constitution of the United States. Although every citizen of the United States has an undoubted right to follow any lawful calling he may choose, "the power of the State to provide for the general welfare of its people authorizes it to prescribe all such regulations as in its judgment will secure or tend to secure them against the consequences of ignorance and incapacity, as well as of deception and fraud." Few professions require more careful preparation than that of medicine, and no one has a right to practice it without having the necessary qualifications. The statute only requires that whoever assumes, by offering his services to the community, that he possesses the requisite qualifications, shall present evidence of them from a body designated by the State as competent to judge of his fitness to practice medicine.

## THE PERIOD OF INFECTION IN SCARLET FEVER.

In a recent number of the "Lancet," Dr. Arthur Whitelegge, Health Officer of Nottingham, England, says that, assuming infection to be given off by the breath and sputa in the early stages of scarlet fever, and by the desquamation at a later period, it seems not improbable that a lull as regards infectivity may occur in ordinary cases about the end of the first week. He adduces some circumstantial evidence in support of this view from a tabulated record of the intervals of time elapsing between the days upon which the first and second attacks, respectively, occur in the same household on a total of two hundred and eighty-eight households. There is a remarkable drop on the ninth day, which is followed by a slight but distinct rise, beginning a few days afterward and reaching a maximum about the sixteenth day. The inference is that the average infectivity suddenly decreases about the sixth day and increases about the twelfth.

## ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 22, 1889:

| DISEASES. | Week ending Jan. 15. | | Week ending Jan. 22. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 14 | 4 | 10 | 5 |
| Scarlet fever | 295 | 50 | 339 | 51 |
| Cerebro-spinal meningitis | 4 | 1 | 2 | 2 |
| Measles | 352 | 20 | 335 | 32 |
| Diphtheria | 184 | 53 | 159 | 39 |

**The Medical Society of the State of New York.**—It is announced that it is the intention of the majority of the delegates from New York and its vicinity to go to Albany on the 4th of February by the 3.30 P. M. train. Certificates will be sent to members and delegates, which they can exchange for excursion tickets at the ticket-office of the New York Central and Hudson River Railroad on the payment of $4.65, the regular rate being $6.20. A drawing-room car will be provided for the exclusive use of delegates. Gentlemen who wish certificates or reserved seats in the drawing-room car should at once notify Dr. Clarence C. Rice, secretary of the New York delegation, 115 East Eighteenth Street.

**The Society of the Alumni of Bellevue Hospital.**—The second annual meeting will be held at the New York Academy of Medicine, on Wednesday, April 3, 1889. Dr. William Osler, Professor of the Practice of Medicine in Johns Hopkins University, will deliver the annual address.

**The Philadelphia Polyclinic.**—Dr. S. Weir Mitchell has been elected professor of diseases of the mind and nervous system, a chair upon that subject having been established.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 13 to January 19, 1889:*

ALDEN, CHARLES H., Lieutenant-Colonel and Surgeon, and MEARNS, EDGAR A., Captain and Assistant Surgeon. Detailed for duty on army retiring board to meet at St. Paul, Minn., at the call of the president thereof. Par. 7, S. O. 10, A. G. O., Washington, January 12, 1889.

MUNDAY, BENJAMIN, Captain and Assistant Surgeon, is relieved from duty at Fort Sisseton, Dakota, by direction of the Secretary of War, and will report in person to the commanding officer, Fort Sully, Dakota, for duty at that post. Par. 2, S. O. 11, A. G. O., Washington, January 14, 1889.

HARRIS, HENRY S. T., First Lieutenant and Assistant Surgeon, will, upon the arrival of Acting Assistant Surgeon Boyer, proceed from Camp Peña Colorada to the post of San Antonio, Texas, and report to the commanding officer for temporary duty. Par. 4, S. O. 1, Headquarters Department of Texas, San Antonio, Texas, January 2, 1889.

By direction of the President, and in accordance with section 1,246, Revised Statutes, an army retiring board is appointed to meet in Washington, D. C., at 11 o'clock A. M., Thursday, the 17th day of January, 1889, for the examination of such officers as may be ordered before it.

*Detail for the Board.*

BAXTER, JEDEDIAH H., Colonel and Chief Medical Purveyor, and GREENLEAF, CHARLES R., Major and Surgeon. Par. 2, S. O. 12, A. G. O., Washington, January 15, 1889.

**Society Meetings for the Coming Week:**

MONDAY, *January 28th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, *January 29th:* Medical Society of the County of Onondaga (semi-annual, Syracuse); Boston Society of Medical Sciences (private).

WEDNESDAY, *January 30th:* Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield); Middlesex, Mass., North District Medical Society (Lowell); Gloucester N. J., County Medical Society (quarterly).

THURSDAY, *January 31st:* Cumberland, Me., County Medical Society (Portland).

FRIDAY, *February 1st:* Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *February 2d:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

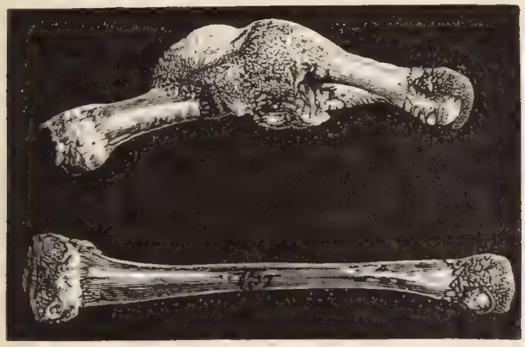
## Letters to the Editor.

### COMPARATIVE PATHOLOGY—A CASE.

12 West Thirty-fifth Street, New York, *December 31, 1888.*

*To the Editor of the New York Medical Journal:*

Sir: Observing in your last week's issue a paper on "Examples of Fractures and their Union in the Bones of Birds," by Dr. R. W. Shufeldt, it occurred to me that a case coming to my notice of fracture of the thigh-bone of a frog, with spontaneous recovery, might be of some interest to your readers, and perhaps, if published, be the means of inducing others to contribute to this field of pathology among the lower forms of animal life. The photograph inclosed, taken twenty years ago, shows the large callus at the seat of fracture, and the amount of shortening may be determined by comparing the injured bone with its fellow.



The history of the case can not be given, but when we consider the enjoyment afforded to youth by casting stones at these harmless amphibians, it is easy to imagine how the fracture was caused. Indeed, on reading an article in yesterday's "Tribune" on "Frogs' Legs and where they come from," it would seem that the custom prevails in a froggery conducted by Messrs. Clark, near Detroit, Mich., of breaking frogs' legs in order to increase their size. Frogs thus "treated" when young are said to develop immense hind quarters; but I should fancy that the increase in size was rather due to the callus at the place of union than any increase of muscular structure. Samuel Sexton.

### AN INEXPENSIVE CELL FOR GALVANISM.

Philadelphia, *January 5, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: In order to prevent a waste of money and time in the case of practitioners of limited means, I write to say that the cell advocated by Dr. Buckmaster, in your issue of to-day, will not answer medical purposes at all. No Leclanché will act for more than a few minutes unless its carbon is fitted with the usual manganic depolarizer. The "creeping" incident to such cells will destroy the pasteboard cover in a day or two. The difficulty of handling the cathodes by one not skilled in construction will result in so many fractures as to raise the cost much above that of a good disc cell, which is by far the better one for medical and surgical use, cautery work only excepted. Wire can not be fastened to either electrode without clamps, and loose connections produce arcs which are very destructive. The form suggested will polarize rapidly when the resistance of the human body is intercalated in the external circuit, the internal resistance being very low. For my gynæcological work I use a battery evolving six to ten ampères under from one hundred to one hundred and fifty volts, the reduction being controlled by a Waite and Bartlett rheostat, and held at fifty to two hundred and fifty milliampères, as proved by a reliable meter for a definite number of seconds. In a fibroid, for instance, I use from three to twelve coulombs at each sitting, and this gives not only the fraction of an ampère, but the quantity in all—so much a second, and so much a séance. You can not do this with a modified Leclanché.

W. R. D. Blackwood.

## Proceedings of Societies.

### ASSOCIATION OF AMERICAN PHYSICIANS.

(*Concluded from vol. xlviii, page 472.*)

**The Relation between Trophic Lesions and Diseases of the Nervous System.**—Dr. E. C. Seguin, of New York, representing the Association of American Physicians, opened a discussion on this subject. Dr. H. C. Wood, of Philadelphia, representing the American Physiological Society, followed. Among trophic lesions they included changes dependent upon neural as well as central lesions, and also permanent vaso-motor changes in so far as they could be shown to influence nutrition; they excluded changes within the nervous system itself.

Dr. Seguin, in opening his paper, remarked that the question presented brought the critic face to face with an enormous accumulation of more or less well-observed, widely diverse, and not necessarily correlated clinical data and experimental facts. He would exclude from consideration vaso-motor disorders and diffused or quantitative changes, partly because he considered them to be distinct subjects, and partly because their study would be beyond the scope of a short paper; it would obscure, complicate, and infinitely extend the search for the true relation between trophic lesions and nervous diseases. He insisted that a lesion meant a positive histological alteration in tissue, and excluded retarded or imperfect development, simple quantitative reduction of tissues, or alterations in local circulation and calorification, such as were seen in cerebral and spinal paralysis occurring before full growth, and occasionally after it. It was quite beyond the limits of his paper to enumerate or classify all the lesions of the non-nervous tissues which had been observed and ascribed to nervous influence or to lack of it. Such trophic lesions had been described as occurring in almost all the non-nervous organs and tissues, in the muscles, bones, articulations, arteries, and glands; and even in cartilages, where it could not be demonstrated that any nerve-fibers terminated. He would, however, suggest a classification which he believed would be found useful in practical work; it comprised two great divisions, as follows:

1. So-called "trophic lesions" in parts whose sensibility was reduced by reason of the nervous disorder, and which were exposed at the same time to injury or infection. The larger part of the data which had accumulated belonged in this class. Examples were seen in falling out of the nails or hair, alteration in the appearance of the skin, articular changes and disorders,

bed-sores, fractures of bone, deep eschars, necrosis of digits, and in most of the lesions in hollow viscera lined by epithelium, such as cystitis. In posterior spinal sclerosis, injuries of the spinal cord or of nerve-trunks, and in various forms of "myelitis," so called, such lesions were frequently seen.

2. Trophic lesions which came as a spontaneous change in deeper parts, where there could be no exposure to infection or to injury. In this class were muscular atrophies and dystrophies, a limited number of cutaneous lesions, and perhaps some alterations in glandular function. They were met with after nerve-section, in neuritis, and in diseases affecting the ventral cornua of the cord or their homologues in the cephalic prolongation of the spinal axis.

When we studied carefully the first class of lesions and the conditions under which they arose, and then compared them with the similar peripheral lesions met with at the close of some non-nervous diseases with tendencies to asthenia and inanition, it became doubtful whether we could rightly consider them as direct results of suppressed or perverted nervous action. The strongest partisans of the truly dystrophic nature of these lesions admitted that extraneous influences played a certain though wholly secondary part in their genesis. But other observers held an opposite view, and believed that the efficient causes of these lesions were trauma and infection acting upon parts which had lost their automatic defense through anæsthesia, and whose circulation and general nutrition also were lowered by disease and inertia, without being specifically altered. The reader proceeded to give accounts of experiments and observations in this line. Thus, when the fifth nerve had been severed, the cornea did not ulcerate if it was completely protected; wounds in parts supplied by an injured nerve, or bed-sores occurring in paraplegia, healed without difficulty if kept clean and at rest, and the use of aseptic catheters gently introduced was exceedingly efficient as a preventive measure against cystitis. In posterior spinal sclerosis, perforating ulcers, arthropathies, and fractures were very rare in cases where the patient had good attendance and avoided overexertion in the later stages of the disease. They scarcely ever occurred among patients in the well-to-do classes for that reason.

The second class of lesions, which the reader called true trophic degenerations, were then reviewed, particularly those occurring in muscles whose nerve was severed, or became diseased, or had its ventral ganglion cells in the spinal cord destroyed. He also considered some skin diseases, such as herpes. He emphasized the fact that there *were* here spontaneous qualitative (or histological and anatomical) changes—changes which occurred with fatal necessity, which gave fixed reactions, and which could not be prevented or cured.

As to the mechanism of these real trophic lesions, we could not go far without getting into speculative fields. Charcot had recently stated that he knew nothing of trophic nerves or their mode of action. Their very existence was denied by physiologists. Many speculations had been published which had no scientific basis in either anatomy or physiology.

He believed true trophic degeneration depended on a law of interdependent life in continuous tissues. The neuro-muscular apparatus, from the ganglion cells of the ventral cornua of the spinal cord to the striated muscular substance, was a unity. In lower forms of animal life, actual neuro-muscular structures existed. In man, the ultimate nervous fibrillæ came into a coaptation and continuity with the muscular structures so close that no investigations had yet shown where the one structure ended or the other began. He therefore concluded that, in the first of the two great classes of cases which he had made, the lesions were probably mostly due to the action of extraneous causes, and were to a great extent preventable. He endeavored to show that only lesions directly due to nervous disease as a necessary and unpreventable result merited the name of trophic lesions, and that, furthermore, they occurred in organs and tissues which were anatomically continuous and whose life (or preservation of structure and function) was associated and interdependent. His final conclusion was that disease of the nervous system produced true trophic lesions when and because it interfered with this interdependent life of continuous tissues; but the proposition was offered as only a partial and preliminary answer to the question it attempted to deal with.

Dr. Wood read a paper in which he approached the question from a different side. He considered Dr. Seguin's paper a daring and logical advance into a difficult and necessarily more or less speculative region of inquiry. He agreed with Dr. Seguin as to the variety of uses to which the term trophic had been put, and thought it had been misused to such an extent that in many instances its own originator would not know it. As to the connection between nerves and muscles, no one could doubt that it was of the closest sort. But in his mind the contraction of a muscle meant a direct result of a change in its nutritive state as a muscle, however that change might be brought about. It was well recognized now that in the salivary glands the condition of the blood-vessels was not necessarily connected with the nerves which controlled secretion and nutrition in their functional cells. The fact that muscle without nerves of discoverable size was contractile, only meant that nervous structures were omnipresent. He had long believed that the relation of nerve to muscle was a twofold one, both metabolic and anabolic that is, or destructive and nutritive. It might be that different fibers in a nerve presided over these changes. It might be that all the fibers conducted either influence, the latter originating in the brain. But at one time, by nervously communicated influence, destructive change and the evolution of work and heat were set up in a muscle; at another time, by nervous influence, rest and nutritive restoration were promoted. Such processes in a gland, or muscle, or in the whole body, had been shown to be independent of blood-circulation, and really dependent on the influence of nervous centers in the medulla. He therefore concluded, in answer to the first question proposed to him by the council, that it was physiologically proved that the nervous system directly affected the general nutrition.

As to the second question proposed, in regard to lesions following injury or disease of a nerve-trunk, he only turned in his mind to cases where the spinal cord had been injured or diseased in which the pressure of the buttocks of a patient on the bed for only twenty-four hours had caused deep ulceration. This meant to him that the nutrition of the parts had been somehow greatly altered. Nothing of the sort happened in health. Furthermore, it had been proved that such changes occurred without any circulatory disturbance accompanying.

Vaso-motor palsy might be complete, and not cause trophic degeneration. He therefore concluded that a number of lesions were the immediate result of a preceding nervous disease, and were due to direct nervous action affecting the cells, for no vaso-motor condition that we knew of was capable of causing such changes in local nutrition. He thought it absurd to attribute such changes to a vaso-motor condition preceding.

Dr. William Ord, of London, believed that the various trophic lesions might be caused in any of three ways: 1. By disease of the spinal cord. 2. Through injury or disease of nerves. 3. By reflex action from disease elsewhere present in the body. As an example of the first class he related the history of a case of chronic hypertrophic cervical pachymeningitis. It had gone on to recovery of motion and sensation, but the tissue around the second and third digits of the patient's hands had wasted unaccountably, the joints of both thumb and fingers had become swollen, tender, and quite loose, the skin and muscles meanwhile wasting. He had been trying for many years to understand the changes in joints and muscles which occurred in chronic gout. He had seen atrophy of the muscles go hand in hand with much deformity of the joints of a limb. Both seemed to him of nervous causation. In another instance which the speaker related, an old man had for years lost power in his arms, the tissues of which, including the skin, had almost wasted away. At the same time the joints of his fingers became loose from atrophy of the synovial membranes and disappearance of the fluid. They were considerably swollen, yet constantly became dislocated and had to be restored to place. Here, too, there was some primary affection of the nervous system which determined dystrophy in the joints. Early in his efforts to analyze the causes of pseudo-arthritis he had met a class of cases in which women of a nervous and anæmic type, as they approached their climacteric, suffered from swellings in the joints of the fingers and toes, accompanied with severe pain. Menorrhagia was nearly always associated with these attacks. The patients commonly called them gouty. After the menopause came a complete recovery from the joint affections. A common and significant lesion accompanying such conditions was herpes of the mouth.

He believed that prostatic irritation was also the reflex cause of joint affections, and that gonorrhœal rheumatism was due, perhaps, not to a microbe, but to an irritation of the nervous system which gave rise to joint affection in the same way that a disease of the nervous substance itself might. Even ordinary acute rheumatism might be a state arising from a condition in some gray cell in the medulla. Changes in joints were certainly very common in connection with changes in the heart. Joint changes often followed parturition, and were also common in poorly nourished women, or those who suckled their infants too long. In the latter case it appeared as if the excessive stimulation of the nervous system caused by the lips of the child directly produced, by a reflex influence, lesions in the joints of the mother.

Dr. M. **Allen Starr**, of New York, thought the distinction made by Dr. Seguin between trophic and nutritive disturbances had not been appreciated in the discussion. It seemed to him a very important one to keep in mind. There was a class of nutritive disturbances, which had not been mentioned yet, which had been described by Gowers and by Dr. Osler. They were changes which followed birth palsies, and cerebral palsies following hemiplegia in children, where there was a wasting of both bone and muscle in the affected limb and arrest of growth. This connected itself strongly with the idea advanced by Dr. Seguin of the close interdependence of the life of physiologically continuous tissues.

Dr. H. P. **Bowditch**, of Boston, recognized in muscular metabolism two distinct processes. One of them was a continuous process of waste and supply of the nitrogenous elements, which had no relation to the activity of the muscle and might be called trophic. The other was connected directly with its activity, and involved loss and renewal of its non-nitrogenous elements. This was, then, the nutrition of the muscle. He thought the distinction a simple means of separating the two ideas of trophic and nutritive disturbance.

Dr. **Pye Smith**, of London, said he agreed more with Dr. Wood, and thought there must be trophic nerves or trophic impulses sent through nerves. At the same time he did not underrate the parts which traumatism, infection, and loss of circulation might play in giving rise to a "lesion." He also believed that there were trophic and atrophic centers in the brain. Some investigators were even finding thermal nerve-fibers and nerve-centers. He thought those acute bed-sores which in a short time scooped out the whole buttocks of a man pointed to something more radical than loss of circulation or pressure, or loss of sensibility preventing change of position. Illustrating nerve injury as a cause, he would mention a case reported by Hilton where an incurable ulcer in the hand had been found to have been produced by a minute exostosis pressing on the ulnar nerve higher up in the arm. On removal of the bony point, the ulcer had at once healed. In "trophic" lesions of the skin, loss of nutrition explained some cases, as when gangrene resulted from obstruction of an artery by an embolus. But other cases could not be explained on such an hypothesis, and we had to look to direct nervous interference. All had seen the cutaneous changes which often followed diseases of the cord—the peculiar and characteristic bullous and vesicular wheals. Michael's investigations had, in his opinion, proved the existence of two sorts of nervous action bearing on preservation of structure. After an exsection of the cervical sympathetic ganglion a loss of circulatory action in the ear had followed, but even after a whole year no ulceration had appeared.

Dr. **Ferrier**, of London, thought there was no doubt whatever that the nervous system had a direct effect on the nutrition of the tissues apart from vaso-motor changes, but whether or not this was done through a separate set of nerve-fibers was not proved. The secretion produced in a gland by stimulation of certain fibers looked in the direction of a special trophic nerve-supply. The degeneration of a muscle without inflammation where its nerve was severed pointed to a separation from its trophic center. But he believed with Dr. Seguin that most trophic disturbances following injuries of nerves were not due to loss of trophic influence. Such were panophthalmitis from lesion of the fifth nerve and various cutaneous disorders. They occurred especially when the injury was partial, and therefore apt to excite irritation. Dr. Weir Mitchell was, he added, of the same opinion. He should, however, expect that section of all the sensory nerves of a part would lead to an atrophy about their terminations similar to that seen in muscles from section of motor nerves. He doubted that there was a trophic center apart from the motor sensory and secretory centers. In the case of a muscle, he thought its motor center gave it its more highly organized structure. With severance of connection between the two, the highly organized neuro-muscular structure fell away to a lower plane of life. We could not as yet say that there was a heat center apart from muscular motor centers. The theory of anabolic and catabolic centers or nerve-fibers was not to his mind clearly proved as yet in its detail. Increased heat production and tissue waste had not been shown to result from the destruction of any known inhibitory or anabolic center. The influence to which we gave these names might be a result of an interference of nerves alike in function merely.

Mr. **Victor Horsley**, of London, did not wish to speak for himself, but to communicate the results of some experiments made by Dr. Frederick Mott, of London, which he thought had a remarkable bearing on the discussion to which he had just listened. It was difficult but necessary to divide the problem into three parts, and decide how far section of nerves induced lesions owing to true trophic disturbance, or to vaso-motor changes, or to loss of function. That vaso-motor changes were often the cause had been rendered improbable. Between loss of function and trophic disturbance it was harder to decide. Dr. Mott's experiments were made in a way which excluded both circulation and functional use as factors in the problem. He had produced changes in the nutrition of bone, and had seen that they were brought about by an active destructive process and not as a passive change. Dr. Mott had tied on one side certain anterior roots in the cauda equina of monkeys, and shortly afterward had found the femoral bone changed in structure on that side, and markedly atrophied. On microscopical examination, its interior medullary structure was found thickly studded with osteoclasts. There was thus present an exaggeration of the normal process of absorption.

**The Effect of Concussion of the Spine on the Reflexes.**—Dr. F. T. Miles, of Baltimore, read a paper with this title in which a number of instances were related where marked symptoms had been present without visible changes being afterward found in the cord. In one case there had been loss of reflexes, loss of reaction to the electric current, the formation of bedsores, and of a large bleb where one foot had pressed against the other. Without a visible change in the cord or its circulation, all nervous functions could be destroyed by jar. He thought too little attention was given to the possibility of such cases. None were recorded among all the cases collected for the "Medical and Surgical History of the War of the Rebellion."

Dr. Wood believed that three different results might attend a severe jarring of the cord: 1. Hysteria, as seen in a case where a woman had collected one hundred thousand dollars from a railroad company to indemnify her for injuries which she had sustained by concusssion of the spine in a collision, but, having married shortly afterward, had become a well and active woman. 2. Myelitis resulting from a minute hæmorrhage, and taking different forms. 3. The direct results of shock, arising from invisible injuries to the integrity of the gray matter, and causing symptoms due to either irritation or arrested transmission.

**Pathology of the Thymus Gland.**—Dr. A. Jacobi, of New York, read a paper with this title, and presented for examination a large number of frozen sections through the entire neck, which showed the relations of diseased thymus glands to surrounding structures. He remarked that medical literature contained scarcely any allusions to diseased states of this gland; it dealt mainly with its embryology, histology, and anatomy. Enlargement of the gland in young infants was not uncommon. Its substance being suddenly engorged by a change in the circulation due to croup or pneumonia, hæmorrhages might take place into the gland and the child be choked to death by pressure on the trachea. Its enlargement sometimes was of itself sufficient to cause choking. Various inflammations occurred in it; also sarcoma, tuberculosis, and syphilis. Diphtheria produced a general parenchymatous change; syphilis a cell proliferation as in the liver. Diseases of the thymus were not on the whole uncommon.

**The Micro-organism of Syphilis.**—Dr. F. S. Eve, of London, showed specimens illustrating the progress of the search for a specific germ producing the lesions of syphilis. No one doubted that there was one; its appearance and nature, however, were not known. It was very likely to be in some way similar to that present in tuberculosis; its product was a more or less similar proliferation of cells and formation of granulation tissue.

In making cultivations, matter was obtained from fresh papules without any medication, as by mercury, having preceded. In the present state of our knowledge there were three reasons for being doubtful of the existence of what we were accustomed to think of as a germ: 1. Syphilis can not be produced by inoculation in animals. 2. The micro-organisms found are certainly not uniform in shape. 3. They are so very few in numbers, considering the amounts of abnormal tissue which are produced.

**The Micro-organism of Yellow Fever.**—Dr. G. M. Sternberg, of the United States Army, gave a demonstration of his methods used in his investigations recently made at Havana for establishing the ætiology of the disease. The bacilli described by Frère and Finley he had not found regularly present; they could not be the cause of the disease. No one germ could be found in the intestinal contents as in cholera. However, in eight tenths of his cases he had found one new bacillus by using a 20-per-cent. gelatin medium. It turned out to be the same thing as the bacillus of Emerick and Esrè (the colon bacillus). It had a remarkable growing power. It also bore a dark to black feathery outgrowth.

The speaker, however, did not look to bacilli as the prime ætiological factor in yellow fever; but rather to some unknown volatile poison diffused through the air of an infected district.

Dr. W. H. Welch, of Baltimore, exhibited microscopic specimens showing the changes which followed unilateral and bilateral extirpation of the thyreoid gland. When half only was removed, the other half underwent hypertrophy so as to take on increased functional duty. But this was not done by an increase of similar gland tissue. The new tissue presented a modification in which the cells were much enlarged and the relations of size in the other component elements were widely changed.

Dr. T. M. Prudden, of New York, showed sections of the thyreoid gland in myxœdema, in some of which there was almost complete loss of gland substance.

## NEW YORK SURGICAL SOCIETY.

*Meeting of October 24, 1888.*

The President, Dr. Lewis A. Stimson, in the Chair.

**Contusion of the Abdomen, with Excessive Hæmorrhage; Laparotomy; Recovery.**—Dr. McBurney presented a patient with the following history: C. W., a newsboy, twelve years old, was brought to the Roosevelt Hospital at three o'clock in the afternoon. A few minutes before admission, the boy, while running across a railway track, stumbled and fell with great violence across a rail, the full force of the fall being borne by the abdomen just above the umbilicus. The ambulance surgeon found him in a state of great shock, muscles relaxed, face pallid and covered with perspiration, pupils dilated. He had no radial pulse, was quite indifferent to surroundings, but answered questions feebly. On admission, he complained of much pain in the back, and was exceedingly sensitive to the touch all over the abdomen. There was no external sign of contusion. It was evident that he had suffered a very severe injury, but the speaker could not decide whether the shock was due to concussion of the sympathetic plexuses or to visceral rupture. No operation could be attempted in his prostrated condition, and he was treated by external heat and by rectal injections of whisky and hot water, hypodermics of whisky being also given. Eight hours later the boy's condition had somewhat improved. A feeble pulse of 160 could be felt; he was still mentally indifferent, was somewhat restless, and complained greatly when the abdomen was touched. Respiration 26, and the temperature 99·8° in the rectum. The abdomen was flat on inspection and dull on percussion on both sides—on the right side to within two inches of the umbilicus, on the left side to within four inches of the same point. The speaker suspected visceral rupture with hæmorrhage or extravasation of intestinal contents, and, although the boy's condition was very bad, he determined to open the abdomen, fearful that, if he did not do so, hæmorrhage might terminate life, or septic peritonitis be established. The operation was done, at 11 p. m., with the assistance of the house staff—Dr. Park, Dr. Brockway, and Dr. Harrison. The most careful antiseptic precautions were taken. An incision about four inches long was first made in the median line of the abdomen. Before the peritonæum was opened it bulged through the wound, and through it dark-colored blood could be seen. The peritonæum was then opened, and numerous large clots and much fluid blood were removed, the quantity of blood being estimated to be about a quart. The incision was then necessarily extended so as to reach from just below the ensiform cartilage to two inches above the pubes, thus permitting of a visual inspection of the whole cavity. The cavity was then flushed and rapidly cleansed with distilled water as hot as could be borne. Some considerable extravasations about the colon and in the omentum were noted. The intestines were drawn out, protected by hot towels, and examined. No rupture was here found. A thick band of omentum was seen to pass through the right internal abdominal ring. It was adherent within a hernial pouch and was left in place. The subperitoneal extravasations being all seen in the right hypogastric region, and none elsewhere, the speaker now examined this region in detail. A single bleeding vessel, a branch of the pancreatico-duodenalis, was found at the lower edge of the duodenum, about an inch to the right of the pyloric orifice, and around this point peritonæum was found to be stripped off the intestine, and also from the adjacent edge of the stomach. The subperitoneal tissue in the immediate vicinity of the pylorus, and for two or three inches along the duodenum, contained extravasated blood. The single bleeding vessel was secured with fine catgut. The whole cavity was then again thoroughly cleansed with hot water, and by sponging rendered quite dry. The abdominal cavity was open forty-five minutes. The wound was closed with silver-wire sutures, which passed through the whole thickness of the walls, about half an inch apart. No drainage. The patient was returned to bed in an hour from the commencement of the operation. During the operation the pulse had improved considerably, probably owing to the stimulus of hot water and ether, and the speaker was sufficiently encouraged by the improvement to defer a resort to transfusion until it should become clearly necessary.

The boy recovered from the effects of ether well. During the night six minims of Magendie's solution were given, and frequent small rectal injections of whisky and occasional hypodermics of the same. The next day, at 9 A. M., his temperature was 103·8°; pulse, 160 and of increasing force.

In the evening the pulse was 110, and the general look of the patient much better. Vomiting, which was troublesome during the early morning, did not occur after midday. The abdomen continued to be very tender. Whisky and milk were cautiously given in small quantities by the mouth. Temperature in the evening, 100·8°.

From this time on the patient rapidly improved, and on the 17th, three days and a half after the operation, he had a natural evacuation from the bowels. No incident worth note occurred during convalescence, except the formation of a small subcutaneous abscess about one of the sutures.

On the 26th, thirteen days after operation, the last sutures were removed, and on September 4th, twenty-one days after operation, the patient went out to walk.

He was now presented in perfect health. The cicatrix was narrow and very strong, and no tendency to ventral hernia was to be noted.

In reply to a question by Dr. Gerster, the reporter said that the hæmorrhage was still going on when the abdomen was opened. The bleeding point was secured by passing a curved needle under it. As this vessel was small, most of the blood must have come from other vessels. There was about a quart in all.

Dr. GERSTER said that, although the case had terminated favorably under Dr. McBurney's hands, it might be said that the patient might have recovered without laparotomy. In the case reported the symptoms were such as to indicate the operation, though septicæmia was not a necessary consequence of the internal hæmorrhage. The success obtained was due to the promptness of action. No fixed rule could be laid down. The operator must be guided to a considerable extent by the wishes of the patient and his or her friends. He had seen patients who were operated upon when in collapse do well, while others, who were in good condition at the time of the operation, succumbed from shock.

Dr. BRIDDON said that every case must be judged by itself. He had recently performed laparotomy in two cases of recent injury to the abdominal viscera, one of which terminated fatally from shock, the other from general peritonitis. There was no doubt as to the justifiability of laparotomy when internal hæmorrhage was present.

Dr. McBURNEY said that it was impossible to make a positive diagnosis in the case reported. There was profound shock at first, but the patient's condition subsequently improved so that an operation seemed to be justifiable. Dullness developed on both sides of the abdomen after the boy came under his observation, showing that there was an accumulation of blood in the cavity.

**The Immediate Correction of Deformities resulting from Disease of the Hip.**—Dr. V. P. GIBNEY read a paper with this title. (It will be published hereafter.)

Dr. WYETH asked if it would not be wiser in all these cases to make a clean section of the femur below the trochanter without trying to make extension. He had performed this operation in many cases, and had always had good results, without any bad symptoms.

Dr. BRIDDON did not see how simple section of the bone alone could correct a bad deformity, as there were often so many muscular and tendinous adhesions. In one instance he had fractured the femur when making very slight manipulations. He thought that section of the bone without simultaneous tenotomy would do little, if any, good.

Dr. WYETH said that the result was entirely different when the bone was broken than it was when a clean section. It was always easy to tenotomize the adductors and the tensor vaginæ femoris if necessary.

Dr. POORE said that he had generally been able to straighten the limb by extension without performing tenotomy.

Dr. ABBE said that he had divided the femur below the trochanter in three cases, and had been obliged to do tenotomy in addition in order to prevent the divided ends of the bone from being drawn forward. No suppurating sinuses were present.

Dr. GIBNEY said, in reply to Dr. Wyeth, that in ordinary cases in which no sinuses existed, section of the bone was all that was necessary, but when the adductors and the tensor vaginæ femoris were contracted it was better to divide them; if tenotomy was not done, the ends of the bone might be tilted so that they would unite at a bad angle. He never employed violence, but made steady traction until he felt the tissues give way. He did not believe that suppuration in his cases had ever been due to the manipulation.

**Biliary Calculi removed by Cholecystotomy; Recovery.**—Dr. ABBE presented specimens of biliary calculi removed from the gall-bladder of a woman, aged thirty, who had been suffering for eight or ten years from occasional attacks of hepatic colic. She had been jaundiced only twice. A globular swelling could be felt at the site of the gall-bladder only during the period of sharp colic. A vertical incision was made over the tenth rib, and the transverse colon was found to be adherent over the entire surface of the gall-bladder. It was evident on examination that gall-stones had at some time ulcerated through into the colon. It was necessary to strip off the latter for the space of an inch and a half. The gall-bladder was then stitched to the abdominal wound and at once opened. About fifty calculi of different sizes were removed. The contents of the sac was a whitish fluid, showing that the cystic duct was obliterated. The former attacks of hepatic colic were caused by repeated ulceration of the wall of the gall-bladder communicating with the intestine. The patient made an excellent recovery.

**Pott's Fracture with Peculiar Complications.**—The President reported two cases of Pott's fracture with unusual complications. The first patient, a man twenty-five years of age, was admitted to the New York Hospital, September 14th, with a Pott's fracture of the right ankle. The outward displacement of the foot was well marked. The fibula was broken about two inches above the tip of the malleolus. The internal malleolus was broken off along its base and was very movable; on reduction of the displacement of the foot, it projected to a marked degree under the skin, lying well to the inner side of the plane of the internal surface of the tibia, and being still freely movable. All efforts to restore it to its place were unsuccessful. An incision was made on the inner side of the leg and foot, crossing and exposing the fragment, which was then found to have been rotated 90° about its antero-posterior axis, so that its broken surface was directed toward the skin and its apex lay against the side of the astragalus. The rotation was corrected by passing a blunt retractor between the fragments and pressing the apex of the malleolus downward. A strip of periosteum an inch long and half an inch wide had been torn from the inner surface of the tibia and remained attached to the malleolus. The patient made a good recovery. In the case of the second patient (admitted to the New York Hospital about October 1st) the lower fragment was not quite so large as in the first, and was much less freely movable, but it also projected beneath the skin and could not be reduced. A similar incision was made and the cause of the persistent displacement was found to be a similar strip of periosteum, torn from the tibia and adherent to the malleolus, which had fallen in between the latter and the astragalus. This patient also made a good recovery. So far as the reporter knew, no other examples of these complications had been reported.

*Meeting of November 14, 1888.*

The President, Dr. Lewis A. Stimson, in the Chair.

Dr. Abbe presented a patient with severe cervico-brachial neuralgia, upon whom he proposed to operate (case to be reported subsequently).

**Radical Cure of Hernia.**—Dr. McBurney presented a male patient, aged sixty-one, upon whom he had operated four months before for cure of inguinal hernia. The patient was feeble and his tissues lax, while the hernia was of large size. The condition of the parts even after the lapse of such a short time seemed to justify the belief that the cure was permanent. The entire canal, except enough space for the spermatic cord, was filled by firm cicatricial tissue.

**Syphilitic Perforation of the Hard Palate; Closure of the Opening by a Plastic Operation.**—Dr. McBurney also presented a boy who had had a chancre two years before, followed by secondary and tertiary manifestations. Six months ago he had an aperture in the hard palate on one side of the median line, and two months later another appeared on the opposite side; the two coalesced, forming a median perforation half an inch wide and an inch and a half long, at the bottom of which the vomer could be seen. The patient had worn a rubber plate over it for some time. As the roof of the mouth was unusually vaulted, the reporter was able to close the opening by making a long incision to relieve tension along the roots of the teeth on each side, then freshening the soft parts around the edge of the aperture, freeing them from the subjacent bone with an elevator, and approximating them with sutures. The wound healed perfectly ten days after the operation, the patient being fed with a tube during the first four days. The voice was now perfect.

In reply to a question by the President, the reporter said that, in the case of the patient with hernia, cicatrization had been complete at the end of seven weeks. It was very important to keep patients in bed as long as possible. They were never allowed to wear a truss after the operation.

Dr. Wyeth asked Dr. McBurney if a recurrence had ever been noted in any of his cases. He replied that there had never been one where all the steps of the operation had been carried out. In the only two cases in which the hernia had returned the sacs were small and themselves completely reducible, so that the reporter had not ventured to search for and draw them down; now he would not hesitate to search for and reproduce the sac and tie it off, as there was always a tendency to recurrence when it was not entirely obliterated.

Dr. Abbe said that he had become a thorough convert to Dr. McBurney's method, and had operated in this manner between twenty-five and thirty times with invariably good results. He cited a case of Dr. McBurney's in which there was a slight recurrence, although the patient did not require a truss.

Dr. McBurney explained that this was one of the two cases to which he had referred in which all the steps of the operation were not taken. There was an incomplete hernia above the canal, and the sac had no neck, so that he did not interfere with the shallow protrusion of peritonæum; now he would extirpate such a sac, and sew the edges together. In the other case of recurrence there was a bubonocele, the sac slipping back into the peritoneal cavity after the canal was opened.

The President did not see why the fact that the sac was not removed in these two cases should interfere with a radical cure.

Dr. McBurney explained that when such a sac was not removed there was a space filled with areolar tissue at the upper end of the canal remaining after the operation. In order to prevent the intestine from protruding, the peritonæum must be rendered smooth by ligating the sac. Otherwise there was nothing to keep the sac from protruding except the dressing. In reply to a question by Dr. Wyeth, he said that Macewen did not extirpate the sac, but folded it in.

Dr. Wyeth thought that Macewen's method offered an advantage in that a convex surface was presented on the peritoneal side of the ring, rather than a concave one.

Dr. Abbe questioned if the boss described by Macewen was really formed as he said. The sac when inverted became twisted and really formed a sort of funnel. The speaker had only once had an opportunity to observe the appearances post mortem and had found a depression opposite to the ring rather than a boss. The sac was always quite thin, and did not form a protuberance when bunched together.

Dr. McBurney said that if a boss was really formed there must necessarily be a fossa on either side of it, which was an unnatural condition to have at this point within the peritoneal cavity and one which would rather favor the formation of hernia. It was difficult to see how the ring could be entirely filled with the inverted sac, as the latter was often exceedingly thin and small; moreover, in congenital hernia there was usually no sac to roll up. While Macewen's results were undoubtedly brilliant, they did not seem to depend on the boss.

Dr. Abbe described the post-mortem appearance of the peritoneal wound in the case of a patient who died of cardiac paralysis two weeks after an operation for the radical cure of hernia by McBurney's method. The peritoneal cavity was absolutely normal; at the internal ring there was merely a stellate cicatrix, lying opposite the upper end of the granulating wound.

**Giant-celled Sarcoma of the Astragalus; Excision of the Bone.**—The President presented a patient, with the specimen removed by operation. The young man, aged twenty-five, entered the New York Hospital the previous summer giving a history of pain and sensitiveness in the foot of eighteen months' standing. The dorsum of the foot was the seat of general swelling. On making longitudinal incision along the antero-external aspect of the leg and foot, the ankle joint was opened and the tumor found in the head and neck of the astragalus. The entire bone was removed. The other bones presented a normal appearance. The patient made a rapid recovery and had been walking about for over a month. There was slight motion at the ankle joint. On microscopical examination of the growth, it proved to be a giant-celled sarcoma. The reporter had removed the astragalus in five cases during the summer, a fairly good functional result being obtained in each case.

Dr. McBurney asked if a diagnosis had been made before the operation.

The President replied in the negative. There was, he said, simply a uniform swelling on the dorsum of the foot and at the sides of the ankle without thickening of the skin, as in tuberculosis, and the diagnosis before operation was chronic arthritis of doubtful origin.

**Anthrax Maligna.**—A paper on this subject was read by Dr. Murray. (It will be published hereafter.)

The President asked if the zone surrounding the slough was anæsthetic, as this was a peculiar feature of the affection. The reader replied that it was, to some extent.

Dr. Rockwell asked why the reader did not give corrosive sublimate more frequently.

Dr. Murray replied that he thought that it was sufficient to administer it four times daily.

Dr. Rockwell said that he had given gr. $\frac{1}{24}$ to gr. $\frac{1}{30}$ every two or three hours to adults in cases of diphtheria without any bad effects.

Dr. Briddon said that he had given gr. $\frac{1}{40}$ to children without having trouble.

Dr. Rockwell said that he had administered a grain a day in hourly doses for four days to a child with diphtheria, the patient recovering.

In reply to Dr. Gibney, the reader said that he applied powdered bichloride of mercury to the wound; within twenty-four hours it turned black, probably being changed to calomel.

**Eburnated Osteoma of the Frontal Sinus; Operation; Cure.**—Dr. Kammerer presented a specimen of osteoma which he had removed from a girl of seventeen, who, six years before, fell on a stone pavement, striking full upon her face. Six months ago she noticed that the region of the nasal bones began to broaden, and that she also experienced difficulty in breathing through the right nasal fossa, which is now entirely closed. The latter was laid open by an incision along the back of the nose, and the tumor was separated from its attachment to the frontal bone with a chisel. It could only be removed *in toto* after excising the edge of the superior maxilla bordering on the anterior nares. The mass measured 3 × 3 × 1½ inches, and filled the entire fossa, deflecting the septum to the left.

**Separation of the Internal Epicondyle.**—Dr. Kammerer showed a specimen that he had removed in resecting the elbow of a man aged sixty-one. He found the epicondyle separated from the humerus, and attached to it by fibrous tissue. There were no other injuries of the bone. On section of both portions across the line of separation, the inner fragment was found to be lined with hyaline articular cartilage. It was doubtful whether the epicondyle had not been united to the humerus at all, or had been separated by a fracture, a new joint forming subsequently.

**Ovarian Cyst with very long Pedicle, simulating Cyst of the Kidney or Liver.**—Dr. McBurney showed a large multilocular ovarian cyst which he had removed, on November 6th, from a patient, aged twenty-five, who had an abdominal tumor of two years' standing. The uterus was freely movable, and the ovaries could not be identified. The abdomen was much distended, and a large tumor could easily be felt, which seemed to be continuous with the liver, the pelvis and iliac fossæ apparently containing intestine only. Flatness on percussion existed from the fifth rib on the right side, and in the median line continuously downward to within two inches of the crest of the ilium. The lower edge of the liver was apparently felt below the edge of the ribs, and below this, and continuous with it, there was a cystic tumor.

A six-inch median incision was made, exposing a tense cyst, which was punctured with a trocar and emptied. A much larger mass, of firm consistence, remained; the latter displaced the liver upward. On passing the hand into the abdominal cavity, this mass was found to be composed of numerous small cysts, with firm walls. The whole tumor was now drawn out of the cavity, and proved to be a multilocular ovarian cyst, springing from the left side, with a pedicle at least six inches in length. There were no adhesions, and the pedicle was tied with silk and returned to the cavity. The right ovary contained a number of small cysts and was removed. No drainage-tube was used.

[Note.] *November 27th.*—The patient is now entirely well, and is walking about.

**Rapid Formation of a Pulsating Tumor following Stab-wound of an Artery.**—The President reported the case, with specimen, of a young man who was stabbed in the front of the forearm, about three inches above the wrist, with a long, sharp knife. The wound was sutured by the ambulance surgeon, and healed promptly; but the patient applied to the hospital on account of a pulsating tumor that had quickly formed at the site of the wound. An incision was made along the line of the radial artery, and a thin-walled sac was found, which was opened, and a quantity of blood-clot was turned out, when a long slit was found in the artery. The latter had been split longitudinally, the knife transfixing both sides of the vessel. It was unusual to have an impulse and murmur so soon after this accident. The artery was tied on both sides of the wound and the intermediate piece removed. The patient made a good recovery. The specimen shows the two stumps of the artery, connected by two smooth bands half an inch long, into the interval between which each end of the artery freely opens.

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## NEW YORK CLINICAL SOCIETY.

*Meeting of September 28, 1888.*

Dr. George M. Tuttle in the Chair.

**Adenoid Hypertrophy in the Pharynx; a New Instrument for its Removal.**—Dr. D. B. Delavan presented an unusually large adenoid hypertrophy of the tissues at the vault of the pharynx in a child five years of age, which had the usual symptoms of mouth-breathing (although able in some degree to breathe through the nose), of restlessness at night, etc. But the most serious symptom in the case was diminution of the hearing power, due to the large growth covering the orifice of both Eustachian tubes. The watch could be heard at only about two inches on one side and four on the other. The child was also unable to articulate certain sounds. After the operation the hearing distance tested by the same watch increased on one side to five inches and on the other to fourteen, and doubtless, after healing of the surface from which the growth was removed, the hearing would still further improve.

The operation was performed with a new instrument, which he exhibited, being a further modification of the much-modified instrument of Loewenberg. It was simpler and rather more effective than the first modification of Morell Mackenzie and the last one of Major, of Montreal. The several pieces of which it was composed could be taken apart and very readily cleansed and disinfected. The handle could be unscrewed just as in the ordinary amygdalotome, so that if it was necessary to have a series of knives (and it did seem desirable to have at least two sizes) they could all be adjusted to one handle. There were only certain cases, perhaps exceptional ones, in which the instrument was specially applicable. They were those in which the growth was of considerable size, and lay principally in the vault of the pharynx. He had a less perfect instrument than the one presented with which he had operated successfully six times. Any remnant of the growth could be scraped away with the fingernail, suitable curette, or forceps.

Dr. B. F. Curtis inquired if hæmorrhage had been considerable after the use of such instruments.

Dr. Delavan replied that there was always some hæmorrhage, and when the Loewenberg forceps was used it was considerable. While it had been supposed that crushing and tearing the tissues would cause less hæmorrhage than to cut them, yet in practice it had been found that operations with cutting instruments had been less bloody. He had not known such hæmorrhage to take place as not to be readily controlled.

Dr. H. M. Biggs inquired what was the structure of the growth.

Dr. Delavan replied that it was like that of the pharyngeal tonsil. The amount of fibrous material varied greatly. One could not be assured beforehand that the growth would not prove tough and difficult to remove. It was more friable in young patients.

Dr. L. E. Holt inquired regarding the frequency of the affection. He had recently read Dr. Hooper's article in which he reported over one hundred cases, which he thought must be a large number in the practice of one physician. He asked also what evidence there was that the disease was congenital.

Dr. Delavan said that Dr. Hooper had operated in over two hundred cases, but one could not judge of the relative frequency of the affection by Dr. Hooper's practice, for to him were sent an unusual number of this particular class of cases. In the public schools adenoid growths in the vault of the pharynx were present in about three per cent. of the pupils. It would be difficult to give undisputed proof of the fact that the disease was congenital. The child had always been a mouth-breather, and as it grew, other symptoms pointing to the growth in the pharynx made their appearance. It did not follow that the growth in children was always present at birth. It might develop afterward. If attention were directed to it, he thought the condition could be recognized at a very early age.

Dr. R. J. Hall, speaking of hæmorrhage, mentioned the case of a woman who was brought to Bellevue Hospital with the history that about twenty-four hours previously she had had an adenoid tumor removed from the pharynx in a city institution, and, hæmorrhage not ceasing, she was brought to the hospital. Her condition was not critical, and the bleeding was readily stopped by a tampon.

The Chairman inquired whether such growths were common in the adult, and whether they attained a size to require removal.

Dr. Delavan said that when they appeared in adults it was believed that usually they were present in childhood. It was not likely that they would develop *de novo* after the twentieth year. Usually when a child had such growths they began to atrophy when the child attained to puberty, but the physician should not wait, allowing the symptoms to which they gave rise to continue a number of years, but should at once remove them.

*Meeting of October 26, 1888.*

The President, Dr. J. West Roosevelt, in the Chair.

**Tuberculosis of the Genito-urinary Tract.**—Dr. F. H. Markoe read a paper with this title. (It will be published hereafter.)

Dr. B. F. Curtis remarked that out of two thousand cases of tuberculosis which had come under his notice at St. Luke's Hospital only half a dozen had been cases of tubercular inflammation of the testis, and he had concluded that the affection was a rare one comparatively. It was an interesting question to him whether genital tuberculosis was a thing to which those were especially liable who had had no venereal history previous to the connection from which a gonorrhœa, followed by a genital tuberculosis, resulted. He had seen several cases where, in young lads and married men, a genital tuberculosis had followed a gonorrhœa.

Dr. Markoe responded that Kocher had made gonorrhœa a not infrequent cause of the development, at least, of a tuberculosis of the testicle.

The President thought that it was proper to take into consideration the very large number of those who had gonorrhœa without the development of local tuberculosis in estimating the importance of the former as a cause of genital tuberculosis.

Dr. Curtis then remarked that the second case related in Dr. Markoe's paper seemed to indicate the value of a removal of a diseased testicle as a surgical procedure tending to prolong life. He asked why the testicle had not been removed in that instance?

Dr. Markoe replied that the inflammation had been of so violent a sort, and the whole progress of the disease so rapid and spreading, that no opportunity, owing to the state of the patient, had presented for surgical interference. However, it was very rare to have such a rapid course, and there was ordinarily abundant opportunity for extirpation of a localized focus of tubercular matter in the genital tract. It had at least the result of removing diseased tissue which would cause a very rapid tubercular process in other parts of the body. The disease might go on, but it would be at a much less destructive rate.

In reply to a question from Dr. A. A. Smith as to the possibility of an early diagnosis of genital tuberculosis, he thought we must make it usually by exclusion. But in case the inflammation was so situated that there was an outlet for its products into the urinary tract, then, by the method of injecting the urinary sediment into healthy animals and watching for the development of phthisis in them, we had a most excellent means of determining the nature of the inflammation that might be present, as to whether it was phthisical or not.

Dr. G. E. Brewer, speaking of the diagnosis, considered it a simple matter. Genital tuberculosis could only be confounded with acute gonorrhœa, epididymitis of gonorrhœal origin, and syphilis of a subacute sort. He would like to hear from Dr. Markoe by what rules he was guided in deciding on operation.

Dr. Markoe replied that he considered operation called for when the tubercular process was not an active one and the health was otherwise good. Under such conditions he had found extirpation of diseased testicles, especially bilateral extirpation, an efficacious measure in checking the course of the disease, even after some tuberculous deposits had appeared in the lungs. It at least made the later months of the patient's life far more endurable, since a subsequent inflammation of the prostate was thus prevented, with its very distressing secondary results, stoppage of the free escape of urine, etc. Two cases had been reported where, after the removal of both testicles, the patient had lived for many years in good health, and died of a non-tuberculous affection. At the autopsy no tuberculous deposits had been found in any part of the body. A consideration of such cases had led him to believe that genital tuberculosis came from a local infection, the virus entering by the urethra and taking up a residence in the large venous plexus about the testicle. He did not understand by what path the micro-organisms reached the testicle, nor how they could ascend far up the urethra against the flow of the fluids. He did not contradict the statements made by authorities that tuberculosis of the kidney began only as a constitutional manifestation of the disease.

The President here observed that in numerous autopsies he had found tubercular deposits in other parts of the genital tract than the testicle, but that in none of these cases had a diagnosis of the condition been made during life.

Dr. Markoe thought that in these cases the urinary sediment had not been tested by injection into animals. In one instance that he knew of a diagnosis could be not obtained from any other symptoms, even just before the fatal termination of the disease.

Dr. W. D. McKim cited an instance where, by the removal of diseased bone in a tuberculous joint, a tuberculous deposit in the apex of the lung had disappeared of itself. There had been unquestionable signs of the presence of the tubercular process in the lung; they began to lessen at once after the removal of the diseased bone, and in a short time had entirely passed away. Other cases had been reported by competent surgeons where operation on a diseased joint had arrested a tuberculous process in the lungs, and had prolonged life for many years.

Dr. Kelly, of Philadelphia, and Dr. W. H. Katzenbach, thought that in the absence of râles, in the case cited by Dr. McKim, there was no conclusive evidence of a tuberculous condition.

The President observed that in most of such cases the tubercular deposits were diffused, and led to no pneumonia or other condition to give rise to râles.

## Book Notices.

### BOOKS AND PAMPHLETS RECEIVED.

Studies in Pathological Anatomy. By Francis Delafield, M. D., Professor of Pathology and Practical Medicine, College of Physicians and Surgeons. Volume II. Part 3—Acute Bright's Disease. With Forty-two Plates. New York: William Wood & Co., 1888.

What to do in Cases of Accidents and Emergencies: describing the Symptoms in each Case and how to treat them on the Moment. With a List of the Principal Poisons, which, if taken, require Prompt Treatment; their Remedies and Antidotes. Designed for Family and General Use. By Joseph B. Lawrence, Medical and Surgical Nurse. New York: J. H. Vail & Co., 1888. Pp. 9–11 to 139.

Sull' idrogeno solforato in rispetto alla sua influenza sull' organismo animale sano ed ammalato. Studio sperimentale. Pel G. Petteruti, Dottore in Chimica e Farmacia; Dottore in Medicina e Chirurgia, etc. Insieme ad alcuni esperementi batteriologici pel Dott. G. Marcone. Napoli: Nicola Jovene & Co., 1888. Pp. 3 to 180.

Explanatory Notes on Dr. Keyes's Investigation of Electrolysis. By C. R. Dickson, Kingston, Canada. [Reprinted from the "New England Medical Monthly."]

The Technique of Ovariotomy as practiced at the University Hospital by Dr. Goodell. By Lewis H. Adler, Jr., M. D., Resident Physician at the University Hospital, Philadelphia. [Reprinted from the "Medical News."]

Further Studies on Grammicolepis Brachiusculus Poey. By R. W. Shufeldt, M. D., C. M. Z. S. [Reprinted from the "Journal of Morphology."]

On the Affinities of Aphriza Virgata. By R. W. Shufeldt, M. D., C. M. Z. S. [Reprinted from the "Journal of Morphology."]

Sixth Biennial Report of the Trustees, Superintendent, and Treasurer of the Illinois Eastern Hospital for the Insane, at Kankakee, September 1, 1888.

The Influence which the Discovery of Cocaine has exerted upon Ophthalmic Surgery. By Samuel Theobald, M. D. [Reprinted from the "Transactions of the Medical and Chirurgical Faculty" of the State of Maryland.]

Report of the Chief of the Bureau of Medicine and Surgery to the Secretary of the Navy, 1888.

Report of the Surgeon-General of the Army to the Secretary of War, for the Fiscal Year ending June 30, 1888.

Our Hospitals for the Insane. By Hiram Corson. [Reprinted from the "Philadelphia Medical Times."]

An Almost Unrecognized Cause of Disease in Young Children. By Hiram Corson, M. D., Conshohocken, Pa. [Reprinted from the "Medical and Surgical Reporter."]

Placental Development. By Henry O. Marcy, A. M., M. D., LL. D., etc. [Reprinted from the "Transactions of the Ninth International Medical Congress."]

The Histology and Surgical Treatment of Uterine Myoma. By Henry O. Marcy, A. M., M. D., LL. D., etc. [Reprinted from the "Transactions of the Ninth International Medical Congress."]

The Eye of the Adult Imbecile. By Charles O. Oliver, M. D., Philadelphia, Pa. [Reprinted from the "Transactions of the American Ophthalmological Society."]

The Climate of the Southern Appalachians. By Henry O. Marcy, A. M., M. D., LL. D., etc. [Reprinted from the "Transactions of the Ninth International Medical Congress."]

## Miscellany.

**Diphtheria in Boston.**—A correspondent writes: Boston is again suffering from diphtheria. It is not alarming enough to be considered an epidemic, yet it has spread to such an extent that physicians are solicitous in making strenuous efforts to keep the disease within its normal bounds. The lack of immediate success in this direction is due in part to the neglect of our former city governments to provide special hospitals and other quarantines for this disease similar to those which are at the command of the health authorities in the case of small-pox. A member of the Board of Health recently said: "In this city diphtheria is more to be dreaded than small-pox. The only way properly to fight a contagious, death-dealing disease is to concentrate all of the cases at one point. This can be done very satisfactorily in the case of small-pox, but it is at present impossible in the case of diphtheria, for the only accommodations for the treatment of diphtheria are those provided at the City Hospital, which are far too limited. Then, again, public sentiment helps the authorities to exterminate small-pox. Everybody dreads it, if only for its loathsomeness, and the relatives of a small-pox patient are only too willing to have him removed from the house. On the other hand, relatives of a person who is afflicted with diphtheria, especially in a mild form, object in nearly every instance to have him taken from the house, and it is exceedingly difficult to isolate a case of this disease, particularly in tenement-houses. The city physician visits every case, and in each instance a warning card is placed in a conspicuous place on the exterior of the house. Very often these cards are maliciously torn down, and, oftener still, the occupants of the house destroy the cards; for, very curiously, there seems to be a feeling that diphtheria and scarlet-fever cards are labels of disgrace. That, of course, is absurd; but one man lately made no attempt to conceal the fact that his objections to having a diphtheria card placed on his house were based on that ground. Had some other person followed this rule of the board, then perhaps the child of the man referred to would not have had diphtheria."

The appended table shows the number of cases of diphtheria in the different wards of the city in 1888 and 1887, and it should be stated that the percentage of deaths from this disease to the number of cases reported was 33·12 in 1888 and 30·03 in 1887:

| Ward. | 1888. | 1887. | Ward. | 1888. | 1887. |
|---|---|---|---|---|---|
| 1. East Boston..... | 63 | 43 | 15. South Boston.... | 52 | 56 |
| 2. " " | 17 | 40 | 16. South End....... | 71 | 30 |
| 3. Charlestown..... | 15 | 34 | 17. " " | 33 | 37 |
| 4. " | 32 | 21 | 18. " " | 41 | 21 |
| 5. " | 27 | 24 | 19. Roxbury ....... | 104 | 85 |
| 6. North End...... | 126 | 49 | 20. R'xb'y & Dor.... | 95 | 61 |
| 7. " " | 85 | 56 | 21. Roxbury........ | 41 | 38 |
| 8. West End.... .. | 35 | 47 | 22. " | 52 | 35 |
| 9. " " | 13 | 22 | 23. W. Roxbury..... | 49 | 95 |
| 10. "Down town"... | 16 | 6 | 24. Dorchester...... | 126 | 78 |
| 11. Back Bay....... | 33 | 31 | 25. Brighton........ | 148 | 25 |
| 12. Cove.......... | 27 | 10 | | | |
| 13. South Boston.... | 42 | 44 | Totals......... | 1,390 | 1,044 |
| 14. " " | 47 | 56 | | | |

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending January 18th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y.... | Jan. 12. | 1,550,372 | 739 | .. | .. | .. | .. | .. | .. | 4 | 49 | 54 | 24 | 9 |
| Philadelphia, Pa... | Jan. 5. | 1,040,245 | 366 | .. | .. | .. | .. | .. | .. | 10 | 14 | 4 | .. | 2 |
| Brooklyn, N. Y.... | Jan. 5. | 814.505 | 345 | .. | .. | .. | .. | .. | .. | 3 | 9 | 25 | 5 | 9 |
| Brooklyn, N. Y.... | Jan. 12. | 814,505 | 344 | .. | .. | .. | .. | .. | .. | 1 | 9 | 29 | 5 | 4 |
| Baltimore, Md..... | Jan. 12. | 500,343 | 149 | .. | .. | .. | .. | .. | .. | 2 | 1 | 3 | .. | 2 |
| St. Louis, Mo...... | Jan. 5. | 440,000 | 150 | .. | .. | .. | .. | .. | .. | .. | 3 | 10 | . | .... |
| San Francisco, Cal. | Jan. 4. | 330,000 | 108 | .. | .. | 1 | .. | .. | .. | 4 | .. | 2 | .. | 1 |
| Cincinnati, Ohio... | Jan. 12. | 255,139 | 99 | .. | .. | .. | .. | .. | .. | 2 | .. | 7 | .. | .... |
| New Orleans, La... | Jan. 5. | 248,000 | 105 | .. | .. | .. | .. | .. | .. | 1 | .. | 3 | .. | .... |
| Cleveland, Ohio.... | Dec. 15. | 227,861 | 68 | .. | .. | .. | .. | .. | .. | 2 | .. | 5 | .. | ... |
| Pittsburgh, Pa..... | Jan. 5. | 220,000 | 90 | .. | .. | .. | .. | .. | .. | 6 | 2 | 1 | 1 | 1 |
| Pittsburgh, Pa..... | Jan. 12. | 220,000 | 104 | .. | .. | .. | .. | .. | .. | 3 | .. | 4 | .. | 1 |
| Milwaukee, Wis ... | Jan. 12. | 200,000 | 70 | .. | .. | .. | .. | .. | .. | 1 | 4 | 4 | .. | .... |
| Louisville, Ky..... | Jan. 12. | 200,000 | 57 | .. | .. | .. | .. | .. | .. | 3 | .. | 2 | .. | .... |
| Minneapolis, Minn. | Jan. 5. | 180,000 | 37 | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | .. | ... |
| Minneapolis, Minn. | Jan. 12. | 180,000 | 45 | .. | .. | .. | .. | .. | .. | 2 | 3 | 4 | .. | .... |
| Kansas City, Mo... | Jan. 12. | 180,000 | 34 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newark, N. J...... | Jan. 15. | 179,000 | 75 | .. | .. | .. | .. | .. | .. | 3 | .. | 3 | .. | .... |
| St. Paul, Minn..... | Jan. 7. | 175,000 | 31 | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 | .. | .... |
| St. Paul, Minn..... | Jan. 12. | 175,000 | 63 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .... |
| Rochester, N. Y.... | Jan. 5. | 120,000 | 26 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 |
| Rochester, N. Y.... | Jan. 12. | 120,000 | 39 | .. | .. | .. | .. | .. | .. | 1 | .. | 4 | .. | 1 |
| Richmond, Va..... | Jan. 12. | 100,000 | 37 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Denver, Col........ | Jan. 11. | 96,000 | 46 | .. | .. | 1 | .. | .. | .. | 1 | 1 | 2 | .. | .... |
| Toledo, Ohio ...... | Jan. 11. | 80,000 | 22 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Camden, N. J...... | Jan. 3. | 70,000 | 21 | .. | .. | .. | .. | .. | .. | 2 | 2 | .. | .. | .... |
| Nashville, Tenn.... | Jan. 12. | 65,153 | 20 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | . | .... |
| Fall River, Mass... | Jan. 12. | 65,000 | 30 | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | .. | .... |
| Charleston, S. C.... | Jan. 12. | 60,145 | 27 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Lynn, Mass........ | Jan. 12. | 50,000 | ...... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Manchester, N. H.. | Jan. 5. | 42,000 | 9 | .. | .. | .. | .. | .. | .. | .. | . | .. | .. | ... |
| Galveston, Texas.. | Jan. 4. | 40,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me ...... | Jan. 12. | 40,000 | ...... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Davenport, Iowa... | Jan. 5. | 33,715 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | 4 | .. | .... |
| Davenport, Iowa... | Jan. 12. | 33,715 | ...... | .. | .. | .. | .. | .. | .. | .. | .. | 4 | .. | .... |
| E. Saginaw, Mich.. | Jan. 12. | 33,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Burlington, Iowa.. | Jan. 4. | 30,166 | ...... | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .... |
| Altoona, Pa........ | Jan. 5. | 30,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa........ | Jan. 12. | 30,000 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | . | .. | .... |
| Auburn, N. Y...... | Jan. 12. | 26,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Haverhill, Mass.... | Jan. 12. | 25,000 | 5 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Newport, R. I...... | Jan. 10. | 22,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Keokuk, Ia........ | Jan. 12. | 16,000 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Pensacola, Fla..... | Jan. 5. | 15,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Pensacola, Fla..... | Jan. 12. | 15,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**The Health of Connecticut.**—According to the State Board of Health's "Monthly Bulletin" for December, the whole number of deaths reported was 950, including 2 from measles, 4 from scarlet fever, 10 from cerebro-spinal fever, 68 from croup and diphtheria, 6 from whooping-cough, 4 from erysipelas, 24 from typhoid fever, 8 from malarial fever, 6 from typho-malarial fever, and 5 from puerperal fever. There were also 125 deaths from consumption, 82 from pneumonia, and 30 from bronchitis.

**The Health of Kansas City, Mo.**—According to the Health Department's "Weekly Return" for the week ending January 19th, there were 38 deaths, including 1 from diphtheria, 2 from malarial fever, 1 from typhoid fever, 1 from typho-malarial fever, 3 from meningitis, 4 from pneumonia, and 1 from tetanus.

## ANSWERS TO CORRESPONDENTS.

*No. 249.*—1. To the secretary of the City Board of Health. 2. No. 3. At once if you wish. 4. They are determined by the July civil-service examination.

*No. 250.*—1. Diplomas must be certified to by the Secretary of the Interior, whose signature is in turn certified to by the Resident Minister of the country at Washington. The applicant must then pass an examination before a board appointed by the Faculty of Medicine of the country. 2. They are said to be from $20,000 to $60,000.

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

THE NEW YORK MEDICAL JOURNAL, FEBRUARY 2, 1889.

## Original Communications.

# THE ANATOMY OF THE NASAL CHAMBERS.*

By HARRISON ALLEN, M. D.,

PHILADELPHIA.

THE anatomy of the nasal chambers bears a close relation to their clinical states, and must always repay the physician who makes them the subject of study.

The descriptions which form this essay will be confined, in the main, to the structures which can be seen in the living subject.

I shall consider the shape of the anterior portion of the middle turbinated bone and associated parts, the shape of the posterior part of the same, the difference in diameter of the chambers, and the boundaries of the naso-pharynx directly back of the chambers.

*The Shape of the Anterior Part of the Middle Turbinal.*—The middle turbinal, when examined by anterior rhinoscopy, presents a stout anterior border which extends vertically, and an inferior border seen foreshortened, extending horizontally for a variable distance.

The vertical border varies both in position and shape. It may, as a rule, lie in the plane of the posterior border of the ascending process of the maxilla, or be advanced well into the external nose so as to be placed between the process last named and the septum. The border is, in the majority of instances, thin and compressed, and retains a diameter not over 2 or 3 mm., but it may be much wider, and attain in rare instances estimated diameters of 6 to 10 mm.† Examination of the ethmoid bone in the skeleton shows the increase of width to be due to the inflation of the bone by two or more interspaces occurring between the vertical walls. The anterior portion of the middle turbinated bone may be said to be separated from the posterior portion at a vertical plane which passes through the anterior ethmoidal foramen and the line of the suture between the malar and sphenoid bones. The part of the nasal chamber which lies between this plane and the ascending process of the maxilla is wider than elsewhere. It is bounded laterally by the uncinate process of the ethmoid bone and the lacrymal bone, inferiorly by the suture between the horizontal plates of the maxilla and the palatal bones, anteriorly by the plane of the posterior borders of the ascending process of the maxilla, and posteriorly by the plane of the anterior ethmoidal foramen. Hanging directly within this space is the anterior portion of the middle turbinated bone.

The following structures lying within the anterior part of the nasal chamber may become inflated—viz., the anterior portion of the middle turbinal, the anterior ethmoid cells,‡ and the points of junction of the middle and superior turbinal with the ethmoid bone proper. No inflated part occurs in the posterior portion. The anterior portion is never scrolled.

The inferior free border of the anterior portion of the middle turbinated bone may be abruptly bent and be free from surrounding parts or be pressed against them. The anterior portion is distinguished clinically from the posterior by the disposition shown for the bone to be covered with spicules or the whole region to be hyperostosed. The membrane is often abnormally thickened at this place alone. The bone, when denuded of its membrane, is found to be separated from the rest of the turbinal by a groove.

The septum being in no instance perfectly straight, but presenting wavy surfaces (even when not grossly deviating from a vertical plane), it is possible for the inflated anterior portion of the middle turbinated bone to be concealed at the sides while freely exposed in front.

Numbers of instances have been seen in which the anterior border was not inflected, but of wafer-like thickness, yet the bone was found to be greatly inflated a short distance back.

The importance of this knowledge in making clinical examinations is so evident as to call for no comment.

The anterior ethmoid cells often form a distinct structure. A rounded mass which resembles the larger end of a distended pea-pod may be seen occasionally projecting into the nasal chamber at the widened anterior part. It usually lies back of the uncinate process, which may be widened and placed nearly transverse to the chamber, and thus be held between it and the nasal septum (as in skull, No. 1,432, Peruvian, in the Academy of Natural Sciences of Philadelphia), or projects more directly forward than in the instances given, when it occupies the space between the uncinate process and the lacrymal bone, and can be seen only after this bone has been removed (see skull, Peruvian, McCracken series, in the Academy of Natural Sciences of Philadelphia). The entire anterior portion of the ethmoid mass may be distended, but without a distinctly projecting mass being formed (No. 1,032, Peruvian, in the Academy of Natural Sciences of Philadelphia, will serve as an illustration).

I have seen cases where intense pain of an inflammatory type was located directly over this anterior inflated part of the ethmoid bone, which was relieved by drilling into the parts from in front.

The inflated parts at the places of junction of the turbinals with the main portion of the ethmoid are never of large proportions, but may exert injurious pressure against the septum, especially in the instance of the superior turbinal.

A question may here be answered as to the connection between the forms of the middle turbinated bone and disease of the bone and its membranes. I have found, both in children and adults suffering from atrophic catarrh, a simple and compressed anterior portion.

The lower free border anteriorly may be also inflated.

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* Read before the American Laryngological Association at its tenth annual meeting.

† Greater diameters have been observed by Zuckerkandl ("Anat. der Nasenhöhle.")

‡ The term cyst used by Bayer ("Centralbl. f. Laryng.," ii, 237) and Glassmacher ("Berl. k. Wochensch.," 1884, No. 30) is probably the same as the inflated part as above denoted. Since they are not morbid, but may simply become the seat of disease, it was thought best to avoid a term of pathology.

An S-shaped anterior portion has been observed in adults only. The inflated form is, however, absent in all ages. In chronic nasal catarrh I have met with all the above varieties.

*The Shape of the Posterior Part of the Middle Turbinal.*—The hinder part of the middle turbinal as seen by posterior rhinoscopy either entirely occupies the upper part of the choana or inclines obliquely downward and inward. In the latter instance, a space is formed through which a small portion of the interior of the chamber can be seen. The superior turbinal is less commonly seen in the choana than is shown in the figures of the clinical text-books. I have commonly found the right middle turbinal less inclined than the left, and it may be horizontal at the upper part, a condition very rarely seen on the left side. The left turbinal is often nearly vertical and held in a narrowed choana. A deflected septum will be apt to compress the middle turbinal on the side toward which the septum inclines. But apart from this condition, the left middle turbinal may incline posteriorly to the vertical line.

In posterior rhinoscopy the parts are seen as they lie in various relations to the plane of the posterior naris, as this opening is defined in the skull. Observers commonly speak of the image as though it were framed in this plane. In truth, what is seen is a foreshortened view of the posterior portion of the nasal chamber seen through the naris. If care be not taken, a septal deviation which is within the chamber may be confounded with a thickening of the septum at the plane of the nares. In studying the skull, of course, this difficulty disappears. If a careful inspection satisfies the observer of the living subject that an irregular or triangular swelling exists on the septal side of the smaller of the two images of the nares, and that this swelling is associated with a middle turbinated bone which inclines to the vertical, a diagnosis of posterior deviation of the septum can be made, although the septum may be normal as seen from in front.

*The Diameters of the Chambers.*—That the two chambers may vary in size without deviation of the nasal septum was shown by me in a skull exhibited before the Association in 1883.* Since that time I have seen a number of crania which yield a similar appearance, and it would not be necessary to recall the observation if a statement had not been made by Dr. Morell Mackenzie † to the effect that he had examined 3,102 skulls in the collections of London and not found a single example of such asymmetry. ‡ I was led by this statement to go over the ground as it was presented in the museums at Philadelphia.

In the Academy of Natural Sciences are collected 1,750 skulls of many nationalities; eighteen examples of left choanal asymmetry were met with. Of this number, only two showed septal deviation, and three only presented angularity of the left contour-line of the septum. In all the above the left choana was distinctly smaller than the right, and the general disposition was the same throughout the left nasal chamber.

The following crania make up the total as given above: Eight Peruvian (Nos. 892, 1,273, 1,489, 1,518, 1,376, San Maleo, 1,026, 1,691), one aged six months; two Hindoo (Nos. 1,554, 4), one aged eight years; two Narragansett North American Indians (Nos. 952, 951); and one each of the ensuing tribes: Otaheitan (No. 1,681), Carib (No. 692), Araucanian (No. 652), Fiji (No. ——), Columbia River Indians (No. 575), and one skull was unnamed (No. 1,489).

In nine examples it was observed that the right nasal chamber was the smaller. They were distributed as follows: Four Peruvians (Nos. 403, 1,366, 1,432, 67); and one of a Columbia River Indian (No. 574), and of the ensuing numbers (Nos. 1,489, 32, negro, 964, 959).

In the skull last named (No. 959) the nasal septum was deviated to the right.

The following include some measurements in centimetres and millimetres of the asymmetrical nares in Peruvian crania:

| No. of specimen. | | Height. | Middle width. | Top width. | Width of turbinals. |
|---|---|---|---|---|---|
| 892 ......... | R... | 2·0 | 1·1 | | |
| | L... | 2·0 | 1·0 | | |
| 1,442 ....... | R... | 2·3 | 1·3 | | |
| | L... | 2·3 | 1·1 | | |
| 1,489 ....... | R... | 2·5 | 1·2 | | |
| | L... | 2·4 | 1·0 | | |
| 1,366 ....... | R... | 2·5 | 1·5 | 0·7 | |
| | L... | 2·4 | 1·5 | 0·8 | |
| 1,518 ....... | R... | 2·1 | 1·5 | 0·7 | |
| | L... | 2·4 | 1·4 | 0·4 | |
| 1,691 ....... | R... | 2·3 | 1·3 | | |
| | L... | 2·3 | 1·5 | | |
| 67 ......... | R... | 2·3 | .......... | .......... | 1·1 |
| | L... | 2·4 | .......... | .......... | 0·9 |
| 1,273 ....... | R... | 2·8 | 1·5 | | |
| | L... | 2·7 | 1·2 | | |
| 1,033 ....... | R... | 2·6 | 1·4 | | |
| | L... | 2·4 | 1·6 | | |
| 1,026 (Young) | R... | 1·8 | 1·0 | | |
| | L... | 1·6 | 0·9 | | |

In the collection of 156 crania in the College of Physicians of Philadelphia—most of the specimens being from European localities—the asymmetry was noted in twenty-four.

Of this number, eleven exhibited the left choana as the smaller. The specimens were distributed as follows: Gypsy (No. 31), Magyar (No. 13), Kossack (No. 101), Roumanian (No. 96), Dalmatian (No. 132), "Gaming Steverin" (No. 138), Krain (No. 86), Anglo American (No. 5), Japanese (No. 50), Pole (No. 26), and one without locality.

The septum was straight in two examples only of the series—viz., in Nos. 86 and 138. It was nearly straight in No. 96.

The remaining thirteen skulls yielded a larger right choana, as follows: Wende (No. 85), Carniola (No. 87), Kumanéa (No. 71), Schlesien (No. 68), Austrian (No. 63), Calabria (No. 48), Ceragora (No. 29), Gypsy (No. 18), Italian (No. 107), Servian (No. 90), Gorale (No. 83), Genua (No. 113), Anglo-American (No. 28); five showed straight or nearly straight septa.

It is seen that the number of instances among recent European skulls (three only of the skulls in the College of

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* "Trans. Am. Laryngolog. Assoc.," 1883, p. 84.

† "Diseases of the Throat and Nose," 1884, ii, 467.

‡ In the figure of the choanæ in Quain's "Anatomy" (vol. i, Fig. 52, 9th edition) the left is the smaller.

Physicians were from ancient graves, and these were symmetrical) of contrasts in measurements of the choanæ is much greater than in the skulls of other races, and that within the group thus limited deflection of the septum is of more common occurrence.

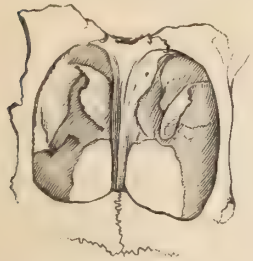

FIG. 1.

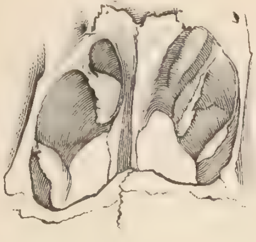

FIG. 2.

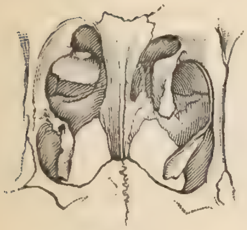

FIG. 3.

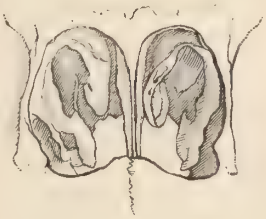

FIG. 4.

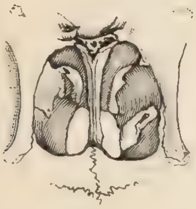

FIG. 5.

The above examples of asymmetry of the nasal chambers at the choanæ (the septum being straight or nearly so) are from the collection of the Academy of Natural Sciences of Philadelphia. The artist, in order to better illuminate the parts, inverted the specimens, thus sacrificing some of the details at the region of the inferior turbinals.

It would appear that the best guide to nasal asymmetry as seen in crania is a comparison between the choanæ. The septum may be straight, be inclined to the smaller choana, or to the opposite side. The asymmetry appears to be determined by causes which exist independently of the deviation of the septum—always assuming that the posterior free border of the septum does not deviate from the vertical.

The study of crania is not the best standard for clinical study. From my experience, the number of instances of asymmetry of the choanæ is vastly greater than can be gleaned from ethnological cabinets.* The entire number has not been recorded, but it can be stated in general terms that a difference exists in the diameters of the choanæ, and that the left is the smaller, as a rule. Even when the contrast is slight, the left middle turbinal is commonly more vertically inclined than is the right.

*The Boundaries of the Naso-pharynx directly back of the Choanæ.*—The space directly back of the choanæ receives the turgescent ends of the turbinals when they can be no longer contained within the chambers. Above, the space is defined by the alæ of the vomer; below, by the velum in advance of the salpingo-palatal folds, and at the sides by the internal pterygoid plates and the orifices of the Eustachian tubes. As opposed to the vestibule which lies in advance of the true nasal chamber, the above space may logically constitute the *posterula*, if it be found convenient to employ a distinctive term.

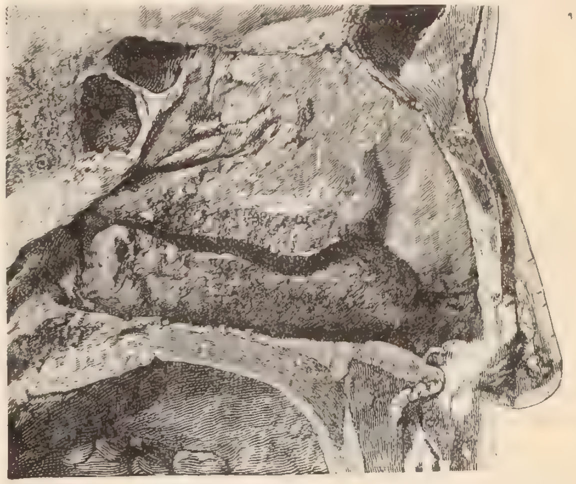

FIG. 6.—View of the left nasal chamber from a specimen prepared by the alinjection method of Professor Wilder. The subject was believed to be free from disease of the nasal mucous surfaces. Since the saw used in making the section fractured the horizontal plate of the palatal bone, it is possible the measurements given in the text are approximately correct only. In any event it will be seen that the ends of the middle and inferior turbinal lie beyond the plane of the choana.

In a specimen of the human head which has been carefully injected by Professor Burt G. Wilder, of Cornell University, it is shown that, in a normal condition of the membranes, the mucosa and submucosa became infiltrated and distended in such wise as to cause projections of the lower and middle turbinals into the naso-pharynx.* The measurements in this specimen are as follows: Inferior turbinal beyond the end of horizontal plane of palatal bone, 5 mm.; middle turbinal beyond the end of horizontal plane of palatal bone, 7 mm.; from the end of vomerine alæ to the plane of the choanæ, 15 mm.

During life the presence of the posterior ends of the turbinals in the naso-pharynx is not unphysiological. I have frequently observed that perfect comfort is compatible with the existence of such masses. If, however, nasal breathing is arrested, if the turbinals are pressed against each other in the same chamber, if the Eustachian tubes are pressed upon, if the salpingo-palatal folds are impinged—and it must be said that one or more of the above conditions are apt to be present—the reduction of the swellings is demanded.

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**German Measles and Vaccination.**—"German measles, and possibly some scarlatina, is prevalent in Pontefract" (says the "Lancet," Dec. 15, 1888), "and the guardians have in consequence suspended the work of the public vaccination stations for two months. This is sound policy, for such a lesion as is brought about by the protective operation of vaccination must necessarily run some risk in cases where an eruptive fever is following its course at the same time, and it is always important that every avoidabe risk should be met in advance."

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* "Trans. Am. Laryngolog. Assn."

* I desire to return acknowledgments to Professor Wilder for an opportunity of exhibiting this interesting specimen.

# THE IMMEDIATE CORRECTION OF DEFORMITIES RESULTING FROM DISEASE OF THE HIP.*

By V. P. GIBNEY, M. D.,

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It has occurred to the reporter that the immediate results of operative interference in deformities of the hip joint might present some points of interest, especially as many of us have been accustomed to treat with great care this class of surgical maladies. Buck's extension and hip splints of various kinds have enabled us to do much in the way of correcting deformities of this joint, and the risk attendant on such procedures is so slight that the preference has been given to this method of correction. Statements like the following teach a certain amount of caution, and surgeons generally are indisposed to adopt means which seem to be violent. In the October number of the "Annals of Surgery," page 19, is an article on "Acute Suppuration after Correction of Ankylosis by Manual Force. By Dr. E. Miller, Tübingen." The author describes a case of ankylosis of hip joint after acute osteomyelitis, in which mobilization was attempted by manual force, but where suppuration of the joint followed the attempt. Oberst has published four similar cases from Volkmann's clinic where acute suppuration was set up in ankylosed joints, resulting from acute infectious diseases. It is probable in all these cases that germs which had not lost their vitality remained imbedded in the tissues, and were again set free by the method adopted.

It is, moreover, remarkable that such operative measures in ankylosis after tubercular disease or perforating shot-wounds are not followed by suppuration ("Beiträge zur klinische Chir. Mittheilungen aus der chirurg. Klinik zu Tübingen." Bd. iii, Heft 2).

The term mobilization leads us to infer that *brisement forcé* was employed, and surgeons generally are familiar with similar results which have followed this mode of procedure. In a carefully selected number of cases during the past ten months I have employed the following treatment:

Under an anæsthetic, simple manual force to pull the limb into position; the division subcutaneously of adductors and flexors by means of the Adams fascia knife; the division of the deeper flexors by open incision; division of the femur below the trochanter minor (Gant's operation); the plaster-of-Paris bandage over a closely fitting stockingette or cheese-cloth bandage from the ankle to the free ribs; and rest in bed for a week or ten days.

I have made no attempt whatever to secure motion or to break up the adhesions. My aim has been to supplement the manual force with tenotomy, myotomy, or osteotomy—one, or all combined when necessary—and to secure parallelism of the limbs at one operation if possible. In many cases the deformity has been so great and the resistance so obstinate that a second or third operation was necessary to secure the object desired. The duration of the disease or the stage of deformity has not been taken into consideration. Where abscesses exist, or where numerous sinuses remain, I have freely opened the one and curetted the other.

The treatment subsequent to operation has been as follows:

To continue the plaster-of-Paris dressing for a few weeks, and then to employ the long hip-splint for traction of the limb and protection of the joint.

In no single case that I have operated upon has any acute joint suppuration followed. It is true that where abscesses or sinuses have existed, the suppuration has not always ceased; but, from a pretty intimate acquaintance with the natural history of these discharges, I am warranted in stating that the suppurative process has not been aggravated by the treatment employed. It is true that friends of hospital patients have in a few instances complained that positive injury was inflicted, and I shall present in detail the histories of one or two of this character.

Case I.—In the spring of 1886 a poorly nourished boy, five years of age, was brought to me at the Polyclinic, suffering from tuberculous osteitis of the spine in the dorso-lumbar region. The deformity was very pronounced, and an abscess presented in the left gluteal region The mother seemed delighted at having again an opportunity of placing the boy under my care, he having first been treated by me in the out-door department of the Hospital for Ruptured and Crippled in 1883 and 1884.

During this interval he had been treated in Bellevue Hospital without relief, the mother claimed.

I could find no positive evidence of disease of the hip joint, but applied a plaster-of-Paris jacket, and determined to keep him under as close observation as clinic patients will permit.

During the winter of 1886–'87 the signs of disease at the hip joint became more apparent, and the proper management of the case became exceedingly difficult. As soon as the mother heard I had returned to the hospital she begged his admission on the ground that it was necessary for her to enter one of the hospitals on Blackwell's Island, and that as a consequence there was no one to take charge of her child. He was accordingly admitted November 29, 1887. He had become greatly emaciated; there was an ulcer on the outer side of the thigh leading to diseased bone, and some fistulous tracts on the posterior aspect. The movements of the hip were greatly restricted, the angle of greatest extension being 125°, greatest flexion 110°, while the limb was held in marked adduction; in fact, all the signs were present which go to make up a case of osteitis of the hip, third stage.

The spinal deformity had increased a little. An attempt was made to secure both spine and hip by apparatus; this was found exceedingly difficult by reason of the unprotected bony prominences. Tonics and stimulants were administered quite freely, but his condition continued until April 4th without essential change. The discharge from sinuses was very profuse, and the approach of amyloid changes was feared, yet his urine did not contain any albumin.

At this time, under an anæsthetic, I laid open the sinuses quite freely and employed the Volkmann's spoon pretty extensively. The joint cavity was not exposed, but one or two foci of disease along the femur were scraped. Very little resistance was encountered in placing the limb parallel with its fellow. Antiseptic dressings were used and plaster-of-Paris bandage applied from ankle to axillæ. He rallied well from the operation, and two days later a large fenestrum was cut in the plaster for the purpose of dressing the wound. Discharge was found as profuse as before the operation. Dressings were employed daily from this time forth, and on the 22d of April, realizing that it would have been better to have made an excision, I had Dr. William T. Bull see the case, with a view to a more thorough operation, but he decided against any operative interference on the ground that removal of the diseased bone at the hip would not relieve the disease in the spinal column. The suppuration continued with little change, the boy gradually failed, and on May 25th died from exhaustion, six weeks after the operation.

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* Read before the New York Surgical Society, October 24, 1888.

For the first time since his admission the mother's interest in the case became awakened, and she professed to believe that his death was directly due to the operation.

Case II.—In marked contrast with the above is that of a girl, six years of age, admitted to the hospital April 17, 1888.

This patient presented a degree of deformity that rendered her gait almost quadrupedal. There was an immense boss occupying the greater part of the dorsal and all the lumbar regions, studded on either side by fistulous openings, a rectangular deformity of right hip with open sinuses in gluteal, posterior femoral, and scarpal regions, nearly all of which were discharging quite profusely. Some were covered with dirty scabs, surrounded by excoriations. The child was extremely thin, and the outlook was by no means encouraging.

The disease was of two years' standing, and during the winter of 1886 she had been under treatment in the out-door department. Her general health improved during the following month, and operation was postponed until the 18th of May, when, under ether, an incision eight inches in length was made over the great trochanter, connecting two or more fistulous openings and extending down to the bone.

The trochanter was fully exposed, and my finger passed around the capsule did not enter the joint. The fistulous tracts leading to the boss were curetted, the same procedure was cautiously employed in the sinuses on the inner side of the thigh, and free communication was established between these and the incision over the hip. The deformity was partially reduced after the subcutaneous division of the tensor vaginæ femoris and the adductors. While still employing manual force to correct the deformity, the femur was broken immediately below the trochanter minor. There was thus produced unintentionally Gant's operation. This enabled me to bring the limb into position, which was secured by plaster of Paris, after proper drainage. suturing the wound, and a heavy dressing. She rallied well, and her temperature during the next three days was as follows: morning, 99·8°; evening, 102°. Next A. M., 103·4°; evening, 104°. Next A. M., 103°; evening, 101·8°.

A portion of the plaster of Paris was removed in order to expose the incision wound and some of the sinuses. The iodoformized gauze packing was removed and the parts were well irrigated with a solution of carbolic acid (1 to 80). It was so difficult properly to dress the case by reason of the discharge from the sinuses of the back that she was anæsthetized on the 25th of May, all the sinuses thoroughly irrigated, and new plaster dressings employed.

Her general condition improved, and on June 4th, when the third plaster dressing was applied, the union at the site of fracture was found to be firm. The discharge continued, though not so freely, during the summer, and during the month of August a hip-splint was substituted for plaster of Paris.

For at least a month now she has been walking about on a splint with limb in good position, and at present writing all the sinuses have closed with the exception of a small one just over the crest of the ilium, and the discharge from this is so slight that a light dressing answers for three or four days.

Case III is that of a boy, now ten years of age, who was admitted to the hospital, August 21, 1883. The family history is reported on the books as being exceptionally good, although for several years neither father nor mother have appeared, and the impression prevails that phthisis and alcohol have contributed to the pauperism of the boy—in other words, he has become a fixture in the hospital. The examination at time of his admission, made with much care and attention to detail, shows that he suffered from articular osteitis of hip (hip disease), first stage. The treatment pursued with unvarying monotony until January 18, 1888, was purely expectant, and during that period he suffered from numerous abscesses, the limb had become very much deformed, and his general health had become greatly undermined. At the date just recorded there were several large sinuses so completely filling the groin, perinæum, and gluteal region that it was quite impossible to employ any traction-splint. The hip was locked at an angle of 115°, and adducted over very nearly a quadrant.

There was one inch real shortening and three inches practical shortening. Failing in my attempt to secure any amelioration by the usual daily irrigation of the sinuses and the administration of tonics and stimulants, I etherized him on the 28th of May, 1888, curetted all the sinuses, connected by incision two or three, and, finding pretty firm consolidation at the joint, did an osteotomy below the trochanter minor, after which I brought the limb into good position. The boy took ether poorly, and it was necessary to resort to artificial stimulation during the operation. His pulse continued feeble for several days, and his temperature varied from 99·2° in the morning to 101° in the evening. The treatment as in above cases was followed here, but the discharge from the sinuses has continued, with little if any abatement, up to the present time.

Good union was secured within four weeks' time, and the limb has been easily retained in the good position secured by the operation. His general health has not improved, and I have for two or three months had him on my list for excision. The extensive repairs, however, in the hospital, necessitating serious inconvenience by the work on plumbing and sewer-pipe, have deterred me from the operation.

While the result of the curetting and osteotomy has not been all that I anticipated, I do not feel that these procedures are responsible for the persistence of the suppuration.

Case IV illustrates the advantages this treatment affords where the disease has long since been arrested, but where a deformity renders the gait exceedingly awkward.

A boy, now eleven years of age, was admitted to the hospital, April 12, 1882, for disease of right hip, ten months' standing.

The case had already advanced to third stage, and was complicated by abscesses. This boy became a fixture also, and in November of last year, when I examined him, I found his general health excellent, but his gait was very awkward by reason of the adduction, the flexion, and the shortening.

There was some motion at the joint, but the limit of extension was 120° and limit of flexion 95°.

Pathological dislocation was present, as shown by the tip of trochanter major being two inches and a half above Nélaton's line. The thigh was marked by two or three cicatrices, but there was no sign of active or recent inflammation.

On March 9th of present year, under ether, the adductors and some of the flexors were divided subcutaneously, thus enabling me, by the use of moderate force, to bring the limb down to an angle of about 160°. The adduction was completely overcome, the usual after-treatment was employed, and he has not had an untoward symptom. I still employ a traction-splint, in order to minimize the shortening.

Case V is that of a boy, now ten years of age, who was admitted to the hospital, June 2, 1884, with a history of lameness for three years. The disease, from the account then given, had been confined to the hip, but on admission there was found a disease of the lumbar spine, with a very small projection of the spinous processes. The treatment employed to date of operation, in March last, was chiefly constitutional, and a spinal apparatus. When I first examined him, on December 5, 1887, his general health was good; his left limb was three quarters of an inch short, as measured from the anterior superior spinous process, and three inches and a half short as measured from the umbilicus. He walked with his hand on the thigh, and was indeed very lame, although quite active.

There were one or two cicatrices about the hip, and all active disease seemed to have long been arrested.

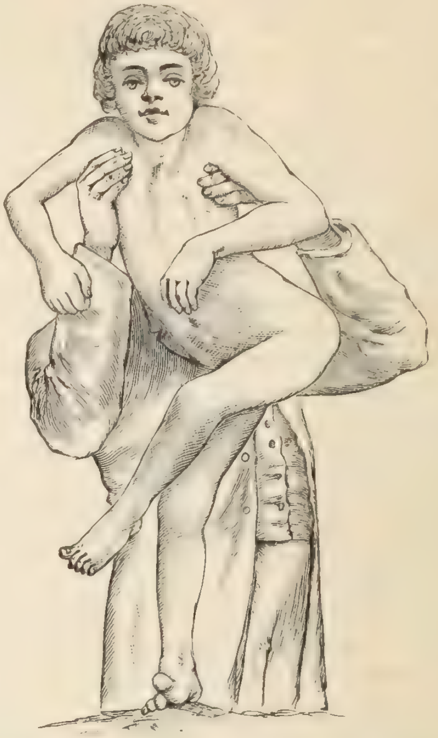
Under ether, March 9, 1888, the adductors and flexors were divided subcutaneously, and with moderate force the deformity was reduced about one half. His temperature at no time reached 100°, and on May 9th, under ether, the operation was repeated. The gain this time was not so pronounced as on the occasion of the first operation, and it remained *in statu quo* until October 9th, when the third operation was performed, which resulted in complete reduction of the deformity. There has been no constitutional disturbance at any time, and the boy is now walking quite erect, with his hip protected by a splint.

It is my intention to remove the apparatus during the coming months, provide him with a high shoe, and discharge the case.

Case VI is that of a boy, eight years of age, who was admitted to the hospital February 9, 1888. Four years before admission he had an attack of measles, which left him with disease of the lids, and four months before admission, without apparent cause, he suffered from a continued fever for eight days. At this time he complained of pain in both knees, and double hip disease was diagnosticated. The deformity came on quite rapidly, and when I examined him he was unable to walk, cried if the least attempt at moving the hips was made, and sat with a tailor-legged deformity. He was very thin, poorly nourished, and presented a cicatrix of a bed-sore over the sacrum. The right thigh was strongly adducted; the limit of extension was 110°; flexion, 80°; so that the knee fell in a vertical line with the anterior superior spinous process of the opposite side; motion in any direction excited reflex spasm. The left thigh was abducted over an arc of about 10°. The limit of extension in this leg was about 120°, flexion about 90°. The hamstrings were shortened a little, so that extension of the leg could not be made beyond 170° for right side, and 150° for the left side. There was no deformity or disease of the spine. On the 9th of March, under ether, an attempt was made to correct the deformity on both sides by dividing any tendons that offered resistance, and by manual force.

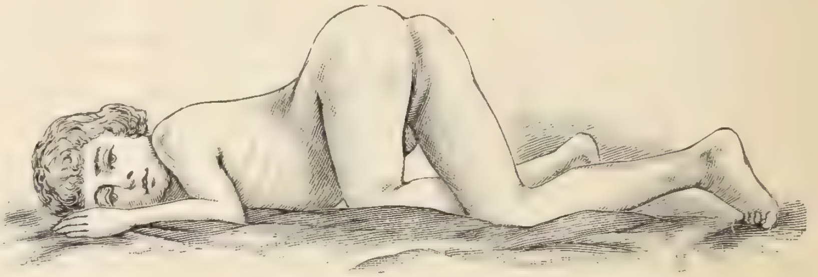
The deformity was reduced about two thirds and a double plaster-of-Paris spica bandage was employed. His general condition improved most markedly, the pain, which was slight, lasted only two or three days, and on April 25th the operation was repeated, the result this time being a correction of the deformity of both hips. Not an untoward symptom followed. He is still incased in plaster of Paris, goes about the wards in a wheeled chair, and continues to gain flesh. It is not my intention to make this communication unnecessarily long by the narration of cases, but I trust I shall be pardoned one or two more, which will illustrate the facility with which extraordinary deformities can be corrected.

Case VII is that of a girl, six years of age, who on her admission, August 28, 1888, presented a deformity of the hip difficult to describe. She could not stand, sat with great difficulty, and had to assume a very peculiar position in lying. I have attempted to get photographs showing these different positions, and the result is presented this evening.



Case VII.—Showing best effort at standing before operation.

The semi-prone decubitus, as shown in photograph, was her favorite position. The left thigh was strongly flexed and adducted on the pelvis, so that the angle of greatest extension was about 37°. She resisted any passive motion, and seemed really to suffer if this was attempted.

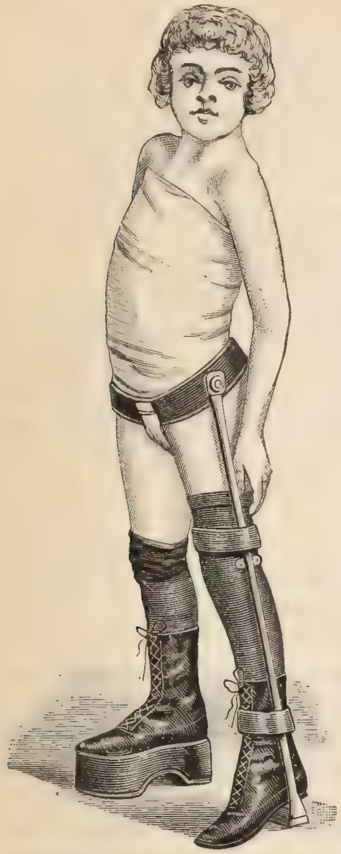


Case VII.—Habitual position when lying down before operation.

There was no evidence of abscess in either iliac fossa, although a kyphosis in the lumbar spine presented. It was simply impossible to get any accurate measurements of the limbs.

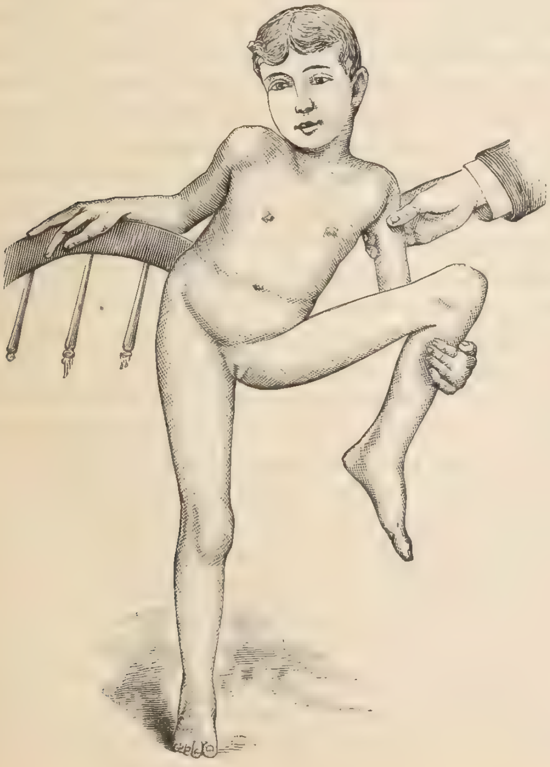
The history of her lameness and deformity extends over a period of one year. There was first pain in the left knee, with lameness. Six months subsequently the mother discovered some deformity of the spine. Six weeks prior to her admission the deformity became so marked that the child was unable to walk. On September 7th, under ether, the adductors and flexors were tenotomized, and with gradual force the limb was brought into good position. Adhesions were felt giving way about the hip, yet the muscles seemed to offer the most resistance. The deformity was really overcorrected, and the usual dressings employed.

Temperature on first evening, by rectum, was 101·6°. On the morning of September 8th, 100·4°; in evening, 102·1°. On morning of 9th, 100·2°; evening, 101·4°. Morning of 10th, 100·4°; evening, 100°. From this time the temperature became normal, and on September 15th she was placed in a rolling chair. On October 9th a hip-splint, with windlass for making extension, was applied, and she now walks about with comparative ease. Her photograph will show the position of the limb.

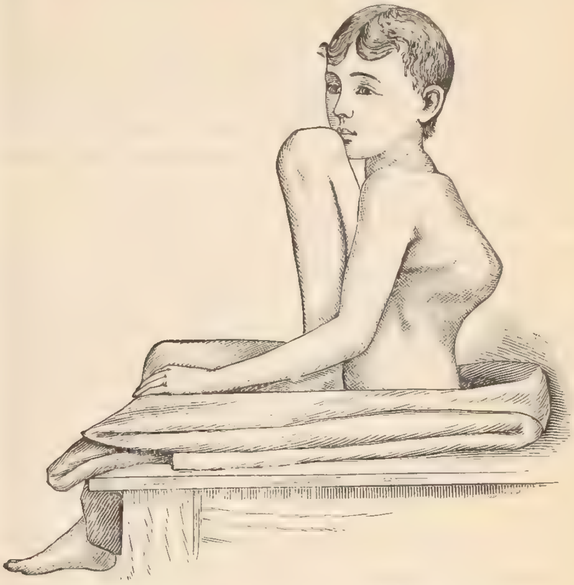


Case VII.—After operation. Showing also splint.

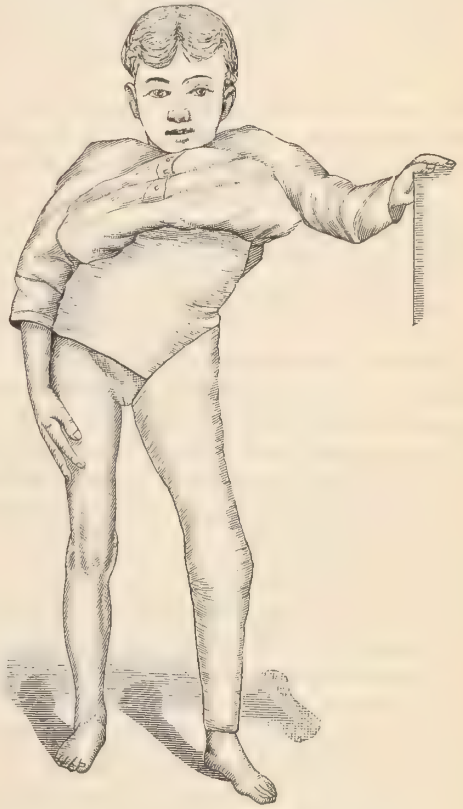
Case VIII.—A girl, ten years of age, with osteitis of spine and of left hip, was admitted October 10, 1888. Her spinal disease was of three years' standing, while the deformity at the hip was of more recent date—ten months. The case is best shown in accompanying photographs. Suffice it to say that the hip was practically fixed in the position shown in photographs. It was thought that motion existed through an arc of 10°, but this was difficult to demonstrate. There was no evidence of any active disease, and her general health, while fair, seemed sufficiently good to permit an operation at once; so on the 18th of October, under ether, the tensor vaginæ femoris was first divided. This brought into prominence some bands of the deeper flexors which were divided. I should state, however, that the ham-strings were first submitted to tenotomy, inasmuch as it was impossible to extend the leg beyond an angle of 120°. We observed great care in extending the leg, and were satisfied with the correction as shown in Fig. 3.



Case VIII (Fig. 1).—Best effort at standing erect before operation.



Case VIII (Fig. 2).—Habitual sitting posture before operation.



Case VIII (Fig. 3).—Day after operation.

I have followed this practice, relying on the subsequent correction of the deformity by means of the jointed splint incorporated in plaster of Paris and wedge of cork inserted in a transverse section of the plaster made in the popliteal space. This method of correcting deformity at the knee was presented to this society last spring.

To return now to the division of the flexors of the hip:

I found that some deeper structures needed division, and I made an open wound, which enabled me to divide band by band as they presented. Having gained the amount of correction as shown in Fig. 3, I desisted from further attempts, closed the wound by suture, inserted a small drainage-tube, and applied a full antiseptic dressing.

The plaster-of-Paris bandage for spine, hip, and knee was applied.

The temperature on evening of first day was 100°. Morning of second, 101°; evening, 101°. Morning of third day, 101·2°; evening, 99°. Morning of fourth day, 100·2°; evening, 101·6°.

A fenestra in the plaster was made over the wound, sutures and drainage-tube were removed, and to-day her morning temperature is 100°.

I expect to resort to another operation within a month, and hope then to secure complete correction of the deformity.

In a few instances I have operated with most satisfactory results in adolescent cases, removing all apparatus within two or three months' time. In one case, a boy about ten years of age, who presented rectangular deformity of hip, with an old cicatrix of groin and a boss in lumbar region from Pott's disease, the sac of the old abscess refilled six months after the operation. From all appearances, the pus comes from the vertebra, and has caused no pain at hip or knee.

In still another case an abscess appeared for the first time three months after the operation. In this case, however, no cutting was done, as the limb was brought into position quite easily. The father discovered a slight fullness under the tensor vaginæ femoris four days ago, with tenderness, and yesterday, with an aspirator, I removed about half an ounce of pus, completely evacuating the sac.

I shall present in statistical form the cases upon which this paper is based, without any attempt, however, to give final results. It has been my aim to present the subject as fairly as possible, and, from my own study of the cases, I feel warranted in stating that it is safe to resort to this procedure in a very large number of dispensary and hospital cases, where any kind of apparatus is abused and where it is important to gain time.

In operating, I have resorted to the expedient of completing the section of bands divided by the fascia knife by means of my thumb pressed deeply over the skin. This is done while the assistant makes extension of the limb.

Much importance is attached to appropriate fixation of the limb after the operation, and I do not, as a rule, resort to traction until a week or a fortnight has elapsed.

Whenever I find bony union, or pretty strong fibrous adhesions at the joint, I prefer section of the bone. The proper disposition of sinuses is at times difficult to decide upon, and I confess that an excision often confronts me in some of the more desperate cases. In some of my earlier cases I am quite sure that an excision should have been performed. Parents, I find, will consent to the correction of a deformity under ether while they strenuously object to any operation on the bone.

This explains the absence of the more formidable operation of excision in the cases I have reported this evening.

In closing this paper, I desire to express my thanks to Dr. S. E. Milliken, my house surgeon, for valuable assistance in tabulating the cases for reference.

Summarizing the tables, I find that seventeen patients were between three and eight years of age, ten between eight and twelve, and three were over twelve years of age. The disease had existed as follows: Six months in one case, one year in four cases, two years in three cases, three years in six, four years in four, five years in four, six years in five, seven years in two, and eight years in one case.

In four cases there was double hip disease. In six cases Pott's disease also existed, and in one of these osteitis of the knee was likewise present. Ten cases presented deformity in a *moderate* degree, in eighteen the deformity was *great*, and in two it was *extreme*. In only three cases the result has not been as good as was anticipated.

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## STATE HOSPITALS FOR THE INSANE POOR.

By HIRAM CORSON, M. D.,
CONSHOHOCKEN, PA.

In "The New York Medical Journal" for October 6, 1888, page 392, I find some resolutions of the New Jersey Medical Society, condemning what they call the "dual system" of management. The society believed itself called on to give expression to its views on account of some alleged mismanagement in the Morris Plains Hospital, which I therefore infer is organized on the dual system. The system which has long prevailed in New Jersey, Pennsylvania, and indeed in all other States where hospitals for the treatment of insane people are found, is what the superintendents in Pennsylvania call the one-head system; the other, the New Jersey dual system, they call the two-heads system, and declare that a hospital thus organized can not successfully be carried on. Now, this one-head system and the other dual system need fairly to be described. The old plan gave to the superintendent the exclusive management of the whole farm and the hundreds of insane males and females, and also the duty of providing everything for the great household of patients and more than a hundred employees. The trustees, generally from seven to nine or more in number, had no power to effect changes of any kind; they were privileged to eat dinner, and authorized to pay bills contracted by the superintendent, when at stated times they visited the hospital, but they had no power to institute any reform; they were the mere servants of a superintendent, whose power controlled every operation from the purchasing of a hundred thousand dollars' worth of needed supplies to the oversight of the hennery and pig-sty. Such is the one-head system. The other, which our New Jersey brethren call the dual system and which they condemn, and which I infer prevails at Morris Plains, is quite different. It exists at Norristown. There are thirteen trustees, some appointed by the Governor, some by the Philadelphia City Councils, and the others by the Commissioners of the counties composing the "district." I know of no others than this one and the one at Morris Plains organized on this plan. The trustees have the entire control and the entire responsibility. In the *one-head* organizations they have all the responsibility and no control.

As the Eastern Hospital at Norristown has been in operation under the thirteen heads for eight years, allow me to speak of its workings, so that you may know whether the Medical Society of New Jersey has acted wisely in denouncing a plan of management of which they had little knowledge, if any at all.

These thirteen trustees received the buildings from the hands of the builders in a very unfinished condition, and the patients were hurried in upon them at a rapid rate. The physicians were appointed by the trustees for a single year, subject to removal at any time—a male physician for the males, a woman physician for the females. These physicians have no other duties than the medical treatment and care of their patients. The sexes have different departments and the male physician has no more concern in the management on the female side than if he were a thousand miles away. Already we see that in this hospital the trustees govern and the physicians are relieved from all outside work, and have time to attend to every need of their suffering patients. These thirteen heads have introduced another change. They have appointed a skillful woman doctor to have charge of her insane sisters. Now, have these changes worked well? your readers ask; for, if they have, the New Jersey Medical Society may have erred in their denunciation of the *system.* I should be quite willing to abide by the testimony of trustees and physicians who have come from various States to examine their hospital with its 1,666 patients (more than 800 of each sex), and who have gone away convinced that it has no equal in things promoting the welfare of the patients in this country.

For more than forty years the *one-head* system—the plan so unanimously approved by the New Jersey Medical Society—has been in operation in Pennsylvania and New Jersey. Has any improvement in the treatment and management of the insane resulted in the hospitals thus conducted? Have there been advances made by the superintendents in a knowledge of mental disease? Have they inaugurated and carried into practice measures calculated to improve the welfare of the insane? No; even the appeals of Dorothea Dix in behalf of the sufferers were unheeded by the *one head*, even when the trustees were anxious for more freedom from restraint and for measures adapted to draw the mind away from its delusions. While in other countries buildings were being erected at less cost, and agreeable employments of various kinds were introduced to engage the minds of the patients and lead them on to sanity, the "Association of American Superintendents" was insisting on an adherence in building to their plan of hospitals of several stories in height and at frightful expense to the State. The suggestion, by men greatly interested in the care of the insane, to introduce the system of employment which was adopted in the hospitals of other countries with great advantage, and which many boards of trustees in our hospitals earnestly approved, was opposed by the *one-head* power which controlled our hospitals. It was comparatively easy to manage hundreds of insane when, for the slightest disobedience, for even an excess of gayety, or a show of desire to resist an attendant, the door of a cell or dark room could be closed on the witless and innocent offender. So, when greater freedom from restraint and utter disuse of straps and muffs, dark cells and Utica cribs, were advocated by the humane, a deaf ear was turned against any change by the *one-head* managers. Has the so-called dual system done better? We shall see.

The opinions held by the New Jersey Medical Society are not accepted by some who have had ample opportunity to see the workings of the two systems. Two weeks ago a meeting of trustees and superintendents of hospitals in Pennsylvania was held in Harrisburg, where Dr. Thomas George Morton, the chairman of the "Lunacy Board" of the State, made an interesting report of the condition of our hospitals and some suggestions relating to needed improvements. Allow me to quote one of them. It is entitled:

"Propriety of the Board of Trustees relieving the Medical Superintendents of State Hospitals of all Duties other than the Professional Care and Treatment of the Insane." He said:

"As a hospital should be a hospital and not a mere receptacle for the insane, the care of those committed to it should be the primary object of attainment, and whatever operates to retard this end, it would seem, ought to be carefully excluded. In this light it becomes a question of consideration whether the time and attention of a medical superintendent should be, even in a measure, engrossed with matters extraneous to the professional care and treatment of the patients committed to his charge. Could not the medical superintendent be relieved of the onerous duties and petty annoyances which must come to him in his present capacity as superintendent of an extensive farm and purveyor to a large household, in addition to what must be admittedly his first and most important duty—the medical care and direction of the treatment and oversight of the inmates of his institution?

"Would not the ability to devote his entire time to the scientific study of the individual cases of complicated disease, so abundantly furnished him, with more ample leisure for the instruction and guidance of his medical assistants, result in a larger percentage of recoveries, a more skillful corps of assistants, and a better administration of the wards?

"Even though a medical superintendent be quite capable of filling the threefold position of physician, steward, and purveyor, ought he not to be relieved in a measure of all cares and exactions which properly could be left to an unprofessional person, which would thus permit his entire time and energies to be devoted to the more legitimate object of his calling as a physician, in improving the condition and restoring to health the patients depending on his skill?

"The trustees of the Norristown Hospital have taken the advance in this important change in hospital administration, and have given the resident physicians of that institution the largest liberty in the management, throwing the entire medical responsibility on them, and at the same time have relieved them of all work other than the professional care and treatment of the patients.

"The trustees state that 'the entire relief of the physicians from the business responsibilities of the institution has continued to work most satisfactorily and *greatly to the benefit of the inmates.*'"

Such are the words of that eminent surgeon, member of the Board of Public Charities and chairman of the Lunacy Committee.

## SOME PRACTICAL HINTS IN CONNECTION WITH INTUBATION OF THE LARYNX,

### *AND A RÉSUMÉ OF 206 CASES OPERATED ON FROM 1886 TO 1888.*

By J. MOUNT BLEYER, M. D.

Through the recent publications of our journals, particularly in New York, Chicago, and Philadelphia, we have been able to obtain by experience positive data upon which to base an estimate of the merits of intubation of the larynx. Every new therapeutical measure must be judged by its results, and if on extended use it can not produce better results than some older and tried remedy it deserves to fall into oblivion. According to these and the following statistics published up to the present time, we find that Dr. J. O'Dwyer's method compares more than favorably with tracheotomy as regards the saving of life, while certainly, to consider it from an æsthetic point of view, it is much to be preferred, and no doubt will prove itself a valuable addition to the medical discoveries and advances of the age.

I have long taken great interest in the subject which deals with the medical and surgical aspects of diphtheria. All difficult subjects are interesting, and this, one of the most difficult, is therefore one of the most interesting that we are called upon to deal with. At present we know little or nothing of the essence of diphtheria, although it is being studied closely; until we do, I take it that our treatment will have to be directed against the effects rather than against the disease itself.

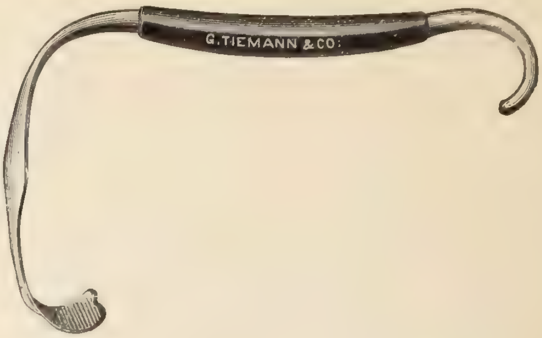
I have found it to be of special importance to make a laryngeal examination in all children that are presented to me for intubation. Few having the experience of the laryngoscope will decry the practical lessons taught by its revelations, or its certainty as a means of differential diagnosis, but still it seems that this method has not yet been fully appreciated in all its aspects by the general physician and surgeon. The importance of such procedure is neither to be underrated nor neglected.

*Why Laryngoscopy should be practiced before and after Intubation.*—It should be urged upon operators practicing intubation to examine, by means of forced or normal laryngoscopy, every case which is presented. I have made this a cardinal rule previous to intubing.

With such means at my disposal, I see the position which the membranes occupy and the general conditions present, so that if membranes are in the way of the operating field they may be removed, and not pushed before the tube downward into the trachea. Forcing down the membranes before the tube, which is so much practiced, is the rule and not the exception.

The differentiation and diagnostication of other laryngeal diseases may be made out at the same time, and the extent of the diphtheritic or croupous lesion seen.

*Suggestions as to how Forced Laryngoscopy is made.*—Forced aryngoscopy is performed by means of my tongue tractor, gag, and a mirror. This tractor and gag have been described fully in the "Archives of Pædiatrics" for October, 1888. An illustration of the tractor is seen below.



In children under five years of age it will be found most convenient, without losing any time, to envelop the child's body and arms with a strong towel, pinned closely about them, and then place it upon an assistant's lap, who takes the legs of the patient between his knees and holds the body well and firmly down upon his lap with the left arm and hand, while with the other over the child's forehead its head is pressed backward against the chest, and thus its attempts to turn it from one side to the other are resisted. The mouth is now opened by means of the gag, which has a wedge attached to the gagger for forcing its way in between the teeth and into the mouth. The alveolar rest has soft-rubber paddings to prevent the breaking of the teeth, or injuring the gums in those where no teeth are present; at this stage of the operation a five-per-cent. solution of cocaine is employed, with which the pharyngeal and laryngeal surfaces are sprayed, or without the use of cocaine, as I often do when the examination is of a short duration, as in the ordinary cases for inspection purposes. The operator passes the tractor down, guided upon the forefinger of his left hand, and secures the base of the tongue, which, being drawn upon, favors partial elevation of the larynx. The tractor is to be drawn upward, outward, and downward. The downward motion depresses the tongue.

Often a very common difficulty is met with in the position of the epiglottis, as it is more or less depressed, overhanging the larynx, or compressed and rolled together at its sides. By forcing and steadying the epiglottis against the base of the tongue, this difficulty is nearly obviated, and the larynx and neighboring parts may be viewed and treated.

Examinations of the larynx can be made at any time during the wearing of the tube, in order to see the same, or to guard against any sudden or unforeseen circumstances, and thereby gain an immediate diagnostic point.

For purposes of illumination, where gas can not be obtained, any lamp which gives a bright, steady light will suffice, and one practiced may obtain a good image even with a candle in a bull's-eye lantern, or with a carriage lamp. Several useful portable lamps can be procured for such work. In the absence of a condensing lens, a piece of white paper placed behind a lamp or candle will add considerably to the brilliancy of the light. If the patient lives in rooms where the sunlight is available, I prefer it for this use.

The degree of success will depend upon the skill and management of the laryngoscope by the operator. Small laryngeal mirrors—the No. 2 and No. 3—are the proper sizes.

*The Daily Extraction of the Tube.*—In my last fifty cases I have extracted the tube daily. This was done for the purpose of removing the accumulation of loose membranes, tenacious mucus, pus, etc., which might block up the tube or the pharyngeal and laryngeal surfaces. Often the child has not the power left, from repeated attempts, to expectorate or cough up these materials. After the employment of this measure it was found that the little patient was helped to rid itself of a large amount of blocking poisonous *débris.* When the tube has been extracted, irrigate the posterior nares, pharynx, larynx, and entire surface with a mild solution of bicarbonate of sodium, and half an ounce to fourteen ounces of lukewarm water. Half an hour later food is offered. I have then seen them take it ravenously. If I found any difficulty at this stage, the stomach-tube was at once applied.

*Reintroduction of the Tube.*—After the food has been given, the tube is reintroduced, and I have found, it advisable in some cases, where the stenosis is not so urgent, to wait for some hours before the reintroduction of the tube is again tried. In a large number of cases it was seen that the tube had done its service on the second or third day, and with but few exceptions it was not reintroduced again.

*The Differentiation between the Tube being in the Larynx or Œsophagus.*—After the tube has been introduced, remove the gag at once and wait a few seconds; now, if your tube has been passed into the larynx, you will immediately observe the difference in the breathing; the cyanosis disappears; a characteristic hollow-sounding cough, which, if once recognized or heard, you will be able to distinguish from all other coughs; this is then followed by a second sudden spasmodic cough, with a large amount of expectoration of muco-pus and membranes; if water is now given to drink, it will still increase this spasmodic cough, followed by still more mucous discharge from the tube.

The signs which present themselves if the tube has been passed into the œsophagus are different. Cyanosis increases, breathing is not relieved, the stenosis increases, the characteristic cough is absent, and the thread of eighteen inches long which is attached to the tube begins to disappear by the gravity of the tube drawing it toward the stomach. Cough may also be present, due to irritation at an attempt of introduction, but without that special described cough.

If there is any doubt in your mind about the presenting signs, then, before the removal of the thread from its attachment to the tube, you had better replace the gag, pass your finger down upon the head of the tube, and feel for the surrounding anatomical parts. But the most certain way is to make a forced laryngoscopic examination, which will distinctly show you the tube in the larynx and relieve you from all further anxiety.

One should make himself thoroughly familiar with the anatomy of the larynx and all surrounding parts before he attempts to practice intubation.

*The Removal of the Thread from the Tube.*—The thread which is attached to the tube is removed last, after you are positive that the tube is in its right position; this is best accomplished by replacing the gag, so as to prevent the operator from being severely bitten; pass the index finger down upon the head of the tube, add slight counter-pressure upon it, while with the other hand draw gently on one end of the thread.

*Selection of the Tube in every Case.*—This depends more upon the judgment of the operator than upon the age of the child, as the size of the larynx differs very often at the same age. It will be found that a larger tube has to be inserted than the indication shows at the age. I generally pass the tube of correct size and, if coughed up for no other cause, introduce the next size larger.

A good plan is to have more than a single set of tubes on hand for those who are practicing intubation, or otherwise, if one of the set is lost, that is generally the tube most required when least expected. Carry in your intubation bag two of each size, so that you can at any moment replace any of the missing ones. Also it is highly necessary to have on hand a few with a larger lumen; these ought to accompany every intubator, as you certainly will run across a case which will not be relieved by the tube with the small lumen.

*Irrigation.*—This is an admirable method of washing away the products of the local lesion. I use a No. 8 soft-rubber catheter which is attached to a fountain-bag syringe; the catheter is passed into the nostrils, first the right and then the left. The solution which is used is made by taking peroxide of hydrogen (Charles Marchand's), fifteen-volume solution, chemically pure, one ounce to twelve ounces of water. With this solution irrigate each nostril thoroughly. After this has been done, the next move is to wash out the mouth, pharynx, and larynx. If the child can be managed without forcing the mouth open, there is no need of the insertion of a gag; but if not, use it. The patient is to be held well forward over a basin for the reception of the returning fluid. Make a second mixture of the peroxide of hydrogen of the strength of four drachms to twelve ounces of water. The catheter is passed well down into the larynx, the surrounding parts, and thoroughly irrigated. The fluids are very seldom swallowed, and if this fluid mixture should be swallowed there is no danger of poisoning, as it is a perfectly harmless antiseptic. The fluid is generally immediately expelled by coughing. The mouth is to be kept wide open and the head well forward. By this mode of treatment, patches of membrane, inspissated muco-pus, etc., can be washed away without difficulty and without pain. My experience with peroxide of hydrogen for the last four years has made me familiar with its varied use in the treatment of the diseases of the nose and throat. From a consideration of the action of peroxide of hydrogen upon the deposit of diphtheritic membranes, and the rapid reproduction of bacteria, it will at once be evident that the earlier the application of the remedy is adopted the better. While the membrane is thin and friable, the action of this agent is thorough, quick, and effective; the deposit melts down before the contact of it like sugar in water, to be reproduced in a short time and again removed until the diseased tissue beneath can be plainly seen free from this characteristic covering. In this way also the spread of the membrane is checked and its limits often sharply circumscribed, until after some days, which it seems to me is within a week, the germinating power of the membrane is conquered and the poison ceases to produce its kind, no more deposit takes place, and the diseased tissues heal. In view of the rapid reproduction of bacteria already mentioned, it is evident that the applications should be no longer apart than two hours, or even less, according to the rapid reproduction of the membranes. Gargling may be practiced by those who are able, but irrigation is preferred, as a more thorough application is thereby made. Irrigation is easily learned by the nurse, and there is absolutely no danger connected with its use.

The peroxide of hydrogen should be kept at a temperature below 65° F., as it begins to decompose slowly at the above-mentioned temperature.

No metallic substance must come in contact with peroxide of hydrogen on account of its oxidizing power.

For internal use I give the preference to glycozone, which is chemically pure glycerin saturated with active ozone, or the formula $C_3H_8O_3 + O_2$. It is intended to be used as a substitute for bichloride of mercury, carbolic acid, permanganate of potassium, etc. This is the most powerful of all organic disinfectants and bactericides. The advantages that are claimed for it in comparison with other powerful antiseptic compounds are its non-toxic properties and inodorousness. I give to a child over two years of age a quarter of a teaspoonful diluted well in water or milk every two hours, and under that age twenty drops.

Before adopting this compound I made use of the peroxide of hydrogen for internal use in diphtheria, but it was not tolerated by the stomach as well as this preparation.

*Fluids and Feeding.*—As a general rule, fluids are swallowed badly. This has been partially overcome by my false epiglottis tube. The child is placed upon the nurse's lap in a recumbent position and fed through a nursing bottle with such fluids as water and milk; shaved ice or ice-cream may be given in the natural way. Nevertheless, some of the fluids will pass into the tube unless great care is taken. I supply the system with fluids and semi-solid food mostly by the stomach-tube. The reason why feeding by the stomach-tube should be adopted is to avoid irritant substances entering the bronchi and tube. Water can be allowed to be taken whether it passes through or not. It is necessary that the intubated children should cough and expel whatever materials are lodged in the tube and air-passages. By feeding them without the stomach-tube you will certainly stop up the tube and favor *Schluckpneumonie*, thereby complicating every case.

The procedure of thoroughly irrigating the mouth, pharynx, and larynx as herein described has been found to act most beneficially in all cases, as then the child does not feel the want of fluid so much, but only has a desire to rid himself of the constant tenacious material which is always lodged in the passages during such a disease.

*A Suitable Bed.*—The best means to secure pure air for a patient with diphtheria or croup is by surrounding the bed by a pair of ordinary curtains. This should be done wherever it is possible; then the window can be freely opened, and thereby the room thoroughly ventilated. The curtains act as a protection to the patient from draughts; the air can be kept immediately surrounding him at an equal temperature, and, with the assistance of the steam atomizer, the air within the inclosed bed can be medicated and disinfected.

The steam atomizer is to be recommended highly, as there is no doubt that by keeping the interior of the pharynx and larynx moist by means of hot steam, it tends to liquefy and loosen crusts of mucus, which favors expectoration of the membranes; or otherwise, without steam, there may be increased laryngeal obstruction. This will always be found a valuable adjunct in the treatment.

*The Protection of the Operator's Eyes.*—Never make any examination of the larynx, mouth, or pharynx of any suspicious nature without the eyes being protected by a pair of eye-glasses, for if a sudden cough or forced expectoration takes place and any particle of this happens to pass into your eyes, a great chance is run of losing the eyesight.

*The Cleansing of Tubes and Instruments.*—Before and after intubation a great deal of attention should be given to this in order that no contagion should be carried to another case which is to be intubated, and perhaps not suffering from the same degree of diphtheria or croup as the one previously operated upon. The remedy that I suggest is that all tubes and instruments used should be scrubbed and boiled before and directly after for ten minutes in a closed pot of water at 212° F., and then left for ten minutes longer in a one-to-forty solution of carbolic acid. In conclusion, I will say that I intended this paper essentially as a practical one, based on the experience of many cases of intubation of the larynx.

The following is a table, record, and *résumé* of my last 206 cases of intubation of the larynx, which shows a large percentage of recoveries. Out of 206 cases, 67 patients recovered—33 per cent. in all ages.

*Table showing the Results of 206 Cases of Intubation of the Larynx.*

Total number of cases operated on, 206.
Male, 137. Female, 69.
Recoveries, 67 (33 per cent.). Deaths, 139.

In the cases of recovery, the tube was:

| | | | | | | |
|---|---|---|---|---|---|---|
| Removed | on | the | 1st | day in | 3 | cases. |
| " | " | " | 2d | " | 13 | " |
| " | " | " | 3d | " | 10 | " |
| " | " | " | 3½ | " | 6 | " |
| " | " | " | 4th | " | 12 | " |
| " | " | " | 5th | " | 11 | " |
| " | " | " | 6th | " | 3 | " |
| " | " | " | 7th | " | 4 | " |
| " | " | " | 9th | " | 2 | " |
| " | " | " | 10th | " | 1 | " |
| " | " | " | 15th | " | 1 | " |
| " | " | " | 20th | " | 1 | " |

Out of 107 there were 24 recoveries in children under three years of age, and in 99 three years and over there were 43 recoveries.

UNDER THREE YEARS OF AGE.

| AGE. | Number. | Deaths. | Recoveries. |
|---|---|---|---|
| 6 mos. .... | 1 | 1 | .. |
| 9 " .... | 2 | 2 | .. |
| 9 " .... | 3 | 1 | 2 |
| 10 " .... | 1 | .. | 1 |
| 10 " .... | 1 | 1 | .. |
| 1 year.... | 9 | 9 | .. |
| 1¼ " .... | 4 | 3 | 1 |
| 1¼ " .... | 1 | .. | 1 |
| 1½ " .... | 11 | 11 | .. |
| 1½ " .... | 2 | . | 2 |
| 1¾ " .... | 13 | 13 | .. |
| 1¾ " .... | 5 | .. | 5 |
| 2 years.... | 21 | 21 | .. |
| 2¼ " .... | 8 | 8 | .. |
| 2¼ " .... | 1 | .. | 1 |
| 2½ " .... | 10 | 10 | .. |
| 2½ " .... | 7 | .. | 7 |
| 2 yrs. 10 m. | 1 | 1 | .. |
| 2¾ " .... | 2 | 2 | .. |
| 2¾ " .... | 4 | .. | 4 |
| Total.... | 107 | 83 | 24 |

OVER THREE YEARS OF AGE.

| AGE. | Number. | Deaths. | Recoveries. |
|---|---|---|---|
| 3 years... | 17 | 17 | .. |
| 3 " ... | 7 | .. | 7 |
| 3¼ " ... | 1 | 1 | .. |
| 3½ " ... | 9 | 9 | .. |
| 3½ " ... | 4 | .. | 4 |
| 3¾ " ... | 3 | 3 | .. |
| 3¾ " ... | 9 | 9 | .. |
| 4 " ... | 6 | .. | 6 |
| 4½ " ... | 3 | 3 | .. |
| 4½ " ... | 8 | .. | 8 |
| 5 " ... | 4 | 4 | .. |
| 5 " ... | 3 | .. | 3 |
| 6 " ... | 5 | 5 | .. |
| 6 " ... | 3 | .. | 3 |
| 7 " ... | 3 | 3 | .. |
| 7 " ... | 5 | .. | 5 |
| 8 " ... | 3 | .. | 3 |
| 9 " . . | 2 | 2 | .. |
| 11 " ... | 1 | .. | 1 |
| 16 " ... | 1 | .. | 1 |
| 18 " ... | 1 | .. | 1 |
| 31 " ... | 1 | .. | 1 |
| Total ... | 99 | 56 | 43 |

*Causes of Death in 140 Cases.*

| | |
|---|---|
| Sepsis | 11 |
| Broncho-pneumonia | 14 |
| Heart failure | 6 |
| Pneumonia | 23 |
| Extension membranes to bronchi, or diphtheritic bronchitis | 57 |
| Bronchitis | 11 |
| Double pneumonia | 1 |
| Asphyxia—not being notified, and tube lost in the bed mattress. | 1 |
| Exhaustion | 10 |
| Scarlatina | 1 |
| Nephritis | 2 |
| Membranous croup | 1 |
| Hæmorrhage of the nose | 1 |
| Asphyxia due to closure of the tube by membrane | 1 |

83 Second Avenue.

## AMPUTATION OF THE THIGH FOR TUBERCULAR DISEASE OF THE KNEE JOINT.

*RECOVERY.**

By W. DUNCAN McKIM, M. D.

Henry B., of Newport, R. I., aged about twenty months, a negro, was kicked by a horse on the left knee in the summer of 1887. There was no special complaint of injury at the time, but in the autumn the joint had become much swollen. In February, 1888, an opening appeared on the right side of the joint, from which there issued a constant and profuse flow of pus. About two months afterward a similar opening appeared upon the opposite side of the joint, and shortly after this a third opening, just below the patella.

On September 6, 1888, the patient, now aged three years, was first seen by me. The three openings into the joint ranged in size from that of a twenty-five-cent piece to that of a silver dollar. The purulent discharge was very profuse. The evening temperature for the next few days ranged at about 101·5° F., the pulse at 150, the respiration at 40. Over the right lung, in the supra- and infra-clavicular regions, there was decided roughening of the breathing and marked prolongation of the expiratory sound. Dullness I could not make out. The child's skin was constantly moist, and at night the sweats were profuse. Two specimens of urine were examined; the first showed a trace of albumin, the second none. There was no diarrhœa; the appetite seemed fair. The patient had been under the care of no physician, and during the seven months of suppuration the more or less constant application of poultices had been the only treatment.

On September 10th, with the assistance of Dr. Kenefick and Dr. Rives, I opened the joint, intending to do a resection if, after closer inspection, this should promise any success, but otherwise to amputate through the thigh. The articular surfaces of femur, tibia, and patella were all diseased, but the greatest ravages of the tubercular process had occurred within the soft parts, and to such an extent as peremptorily to preclude resection. Accordingly, by a modified circular method, I amputated the thigh at the junction of the middle and lower thirds. It being now found that the muscular mass of the stump was likewise the seat of extensive tubercular deposit, the diseased tissue was cut and scraped away, and the bone sawn again, this time just below its middle. The skin-flap was slit up by a longitudinal incision on each side, a drainage-tube introduced into each angle, the flaps sutured with catgut, and a corrosive-sublimate dressing applied. Throughout the operation, asepsis and antisepsis were duly regarded.

On the evening after operation the temperature was 101° F. —lower than on the previous night—and within a few days it fell to the normal. Pulse and respiration likewise improved. The rough breathing and prolongation of the expiratory sound, after several weeks, had become much less distinct. The first change of dressings was made ten days after the operation, and the drainage-tubes removed. The flaps were found well united, and the drainage-tracks contained no pus. About four weeks afterward the drain-canals were entirely closed, the patient apparently in perfect health, and about to use his crutches. At this time, unfortunately, the lungs were not examined.

The case reported is an interesting one as showing the value of amputation even after apparent secondary deposit of tubercle in the lung; as being one of those rare cases of joint disease which, through neglect, demand primary amputation; and by reason of the patient's tender age.

## HOME HEALTH RESORTS.

By J. M. WINFIELD, M. D.,

BROOKLYN, N. Y.

During the past few years physicians have endeavored to find a suitable climatic resort so near at hand as to enable them to render personal attention to their patients.

Much has been said and written in reference to the different resorts of the United States. Each has its own peculiar advantages, and when the careful and interest-taking physician is confronted with the question where to send his patient in need of climatic change, his decision becomes one of great moment, and requires very careful deliberation. If the doctor, when in search of such a place, could have a personal acquaintance with the spot, and if he could carefully note the kind of soil, quality of water, average thermometric and barometric variations, how much easier the decision would become! No doubt many patients would be improved accordingly.

Sending invalids from home under any circumstance is no easy task. The responsibilities are great in advising them to go either a short distance or to the south of France. If we could send the almost hopeless patient where his friends might readily visit him, the decision would seem much brighter. It is undoubtedly true that a number of fatal results are hastened by that "sickest of all maladies, home-sickness." Physicians in search of climatic aids have been led to send their patients to Jacksonville, Fla., Aiken, S. C., Asheville, N. C., and many other resorts in the South. The climate of Florida for the greater part of the year is undoubtedly fine. While the patient is put in a state to resist the *Bacillus tuberculosis*, he is laying up a store of malarial (and sometimes yellow-fever) germs, these only awaiting the time when he returns home to appear, thus rendering his physical state as bad as before. The other places mentioned are eminently suitable for patients seeking the advantages of an inland resort. The only and great objection to these places, however, is that they are so far distant.

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* Read before the New York Clinical Society, October 26, 1888.

Aside from the sentimental and other objections to sending patients so far from home is the question of expense. Many of the places of note are difficult of access, the cost of travel alone being enough to keep the invalid comfortably for a number of weeks at some home resort.

The mountain resorts of the North are numerous. On account of their beauty, the Catskills have long been noted as a summer resort. However, until quite recently, there have never been any steps taken to establish their reputation as a health resort; and yet, from their proximity to the city, there might be many cases in which these mountains would be preferred to similar places in the far West.

The Adirondack region has long enjoyed a reputation for healthfulness. It is so well known that little need be said regarding it.

The extreme cold of winter is compensated for by the great altitude and the consequent rarity of the atmosphere. When the relative moisture is small, though the evaporation is more rapid yet the direct abstraction of body heat is greatly diminished. It is a well-known law of physics that the rarer the air the greater the radiant heat from the sun—now popularly shown by the radiation thermometer. Thus patients find themselves unexpectedly comfortable in such a climate.

There are a number of well-known coast resorts in the vicinity of New York.

Atlantic City, N. J., is easily accessible from Philadelphia and New York. It is much sought for by those suffering from bronchial affections, and, notwithstanding *fogs*, it answers many of the requirements of a health resort.

For the past eight years Lakewood, N. J., has enjoyed a constantly increasing popularity as the resort for persons affected with pulmonary diseases. Nature seems to have endowed this part of Ocean County with peculiar therapeutic advantages. The soil is of sand and gravel, with only scattered beds of clay, providing almost perfect drainage.

The air, already pure, is surcharged with the antiseptic odors from the pine forests which surround the village on all sides except the east. The temperature during the winter is soft and quite warm, owing to its admirable southern exposure.

For some reason the attention of physicians has never been properly called to the healthfulness of the middle portion of Long Island. According to the statistics, the death-rate is below that of the adjacent counties of New York and New Jersey. Endemic malaria and pulmonary diseases are almost entirely unknown. An observing physician of national repute once remarked that the two counties in the United States most remarkable for health were Suffolk, Long Island, and Berkshire, Mass. The temperature of this portion of the island is several degrees warmer in winter and cooler in summer than that of the mainland (the average difference being about 15°). The reason for this is that the prevailing winds are from the south and southwest, blowing directly over the water from the Gulf Stream, which is only ninety miles distant. The soil is of sand and gravel, giving perfect drainage. The level of the ground-water is at an average of thirty-three feet below the surface, with a very slight annual variation.

There is probably no other place short of the Adirondacks where there are such immense pine forests, composing a belt fifty miles long by six wide.

The belief in the good effect of pine forests in pulmonary affections is quite unanimous. The way the odor of the pine exerts its beneficial results is probably due to the peroxide of hydrogen formed from the oxidation of the turpentine vapors, thereby rendering the air antiseptic as well as aseptic. In the midst of this pine forest, at the village of Brentwood, about two hours from New York, there has been a health resort opened. The park surrounding the hotel is protected on the north and east by a solid belt of evergreens, making the temperature in winter several degrees warmer than that of the adjoining village, thus enabling patients, at all times of the year, to enjoy out-of-door exercise in the *immediate* midst of pines. There is neither lake nor fresh-water pool of any kind within three miles of the village, consequently malarial influences are impossible. The advantages of this new resort will be seen at a glance. Its contiguity to the cities of New York and Brooklyn, the healthfulness of this portion of Long Island, its pine forests, its admirable protection from wind and fog, pure drinking-water, perfect drainage, a well-appointed hotel where the invalid receives solicitous care—a thing so often neglected at the American resorts—all of these should call the attention of the physician in search of a home resort for his patient, whether suffering from pulmonary or any other disease, in need of climatic change.

11 New York Avenue.

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# A CASE OF
# COMPLETE ABSENCE OF THE UTERUS.

By W. D. HAMAKER, M. D.,
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LATE RESIDENT PHYSICIAN, UNIVERSITY HOSPITAL, PHILADELPHIA.

I will give briefly the facts in the following interesting case:

Mrs. S. consulted me July 18, 1888, on account of amenorrhœa and sterility. She gave the following history: Family history good and no evidence of a similar case among her relatives; she is twenty-three years of age and has never menstruated, nor had any of the symptoms of menstruation, and there was no history of vicarious menstruation. She was married at the age of nineteen years, and her married life has always been happy. Sexual intercourse is pleasurable. She has always had excellent health and says she never had an ache or pain.

Her breasts were well developed and the pelvis wide, and the whole appearance was that of a woman with complete development.

Upon inspection of the external genitals nothing abnormal was noticed. The pubis and labia majora were covered with the usual growth of hair. The clitoris was of normal size and appearance. Under chloroform the vagina was found to be extremely short, being not more than an inch and a half long, and to terminate in a *cul-de-sac*, which was symmetrical and smooth and contained no trace of a cervix.

By combined abdominal and vaginal palpation, no swelling, hardness, or fluctuation could be detected. Negative results were also obtained by combined rectal and abdominal palpation.

On inspection of the vagina by means of the speculum, it was found to be of natural size throughout its entire length, and its wall presented a natural appearance. There was no prominence or depression at any point to indicate an os uteri or a rudimentary cervix.

When she was not under the influence of the anæsthetic no tender point could be found either by vaginal examination or by deep pressure over the ovarian regions.

Dr. J. C. Cotton, who examined the patient with me when she was under chloroform, concurred in the opinion that this woman had neither uterus nor ovaries.

889 WATER STREET.

# Correspondence.

## LETTER FROM LONDON.

*The "British Medical Journal" and Professor von Bergmann.—Rheumatism and Chorea.—"Guy's Hospital Reports."—A New Dental School in London.*

LONDON, *January 9, 1889.*

AN agitation, which at one time threatened to produce serious results as regards the welfare of the British Medical Association, has been going on for some weeks, and, though matters are somewhat in abeyance just at present, it is impossible to say that the affair is over. About the time when Mackenzie's book was published, the "British Medical Journal" published a script of the deceased emperor relative to what may be termed the Bergmann incident, alluding to that eminent surgeon's skill in no very complimentary terms. Some of his friends in this country vigorously took the matter up, declaring that the publication of what a patient said about one of his medical advisers was a breach of professional etiquette. A meeting was called and a formal protest sent in to the Council of the Association. The Council held a meeting, heard what Mr. Ernest Hart had to say on the subject, and replied to the memorialists expressing their regret that the paragraph had been allowed to appear, etc. This, however, does not seem to have been enough for the protesters; they desire the publication of a formal apology to Professor Bergmann in the "Journal," and the matter is still under consideration by the Council. In connection with this subject I may mention that Sir Morell Mackenzie has taken the prudent step of severing his connection with the College of Physicians, of which he has been for twenty years or more a member, and has thus avoided the risk of a possible censure from the Censors Board.

At the meeting of the Medico-chirurgical Society this week the much-discussed topic of the connection between chorea and rheumatism was under discussion. Two papers, each dealing with eighty cases, were brought forward, one by Dr. Herringham, the other by Dr. A. Garrod, a son of the well-known authority on gout. Dr. Garrod concluded that the endocarditis of chorea was probably always of rheumatic origin, but that there was no evidence to show that all chorea was of rheumatic origin. Dr. Herringham adopted a more agnostic spirit; he was content to find that a large number of choreic patients were subject to rheumatism, and that choreic patients had nearly always a delicate constitution. Dr. Chedale, who followed, may be regarded as the champion of the rheumatic origin, while Dr. Sturges, who spoke at a later period, is certainly the champion of the non-rheumatic theorists; Dr. Sansom declared himself among the latter, while Dr. Stephen Mackenzie sided with the former. In discussions of this sort, as a rule, neither side succeeds in convincing the other, and this last debate was no exception; but the numbers of those who believe in a non-rheumatic form of chorea are steadily decreasing every year, for the very simple reason that the longer choreic patients are observed, the more frequently is rheumatism to be found among them. Dr. Garrod mentioned one instance of a person who had her first attack of rheumatic fever fifteen years after her attack of chorea, and it seems therefore quite fair to argue that at the time she had her chorea she could not really have been non-rheumatic. I was rather surprised that none of the speakers referred to the very excellent paper of Weir Mitchell on the seasonal relationships of chorea, for he is a writer who is very well known and highly appreciated in this country.

The new volume of the "Guy's Hospital Reports" which has just made its appearance contains three excellent statistical papers, the first being the record of ten years' experience in the Lying-in Charity, the number of women attended being 25,489, showing a considerable increase over the number during the preceding ten years. Mr. John Poland contributes the statistics of secondary hæmorrhage after amputation during a period of forty-two years; the total number of cases comprised in that period is 1,641, and when one considers that these have all occurred in one hospital and have been recorded upon a definite system, the enormous value of such a collection of statistics will be at once apparent. The third paper, of a similar character, is by one of the students, and deals with all the cases of cancer of the tongue treated during the last four years at the hospital.

Guy's Hospital is coming to the front, or trying to, as a center for the instruction of dental students, and an advertisement has lately appeared announcing the fact that the governors are prepared to appoint six assistant dental surgeons to the hospital; whether they are well or ill advised in taking this step it is difficult to say. The dental school in Leicester Square has been long established and is very successful; it has, moreover, the pick of the London dentists on its staff. The students who wish for a medical education in addition to their dental one generally go to Charing Cross or to the Middlesex, and it remains to be seen whether the new venture at Guy's will attract many students.

I hear rumors that a co-operative post-graduate association is being formed by some of the leading special hospitals to provide systematic clinical instruction for the large number of strangers who find their way to the metropolis in quest of knowledge; at present the scheme is quite in embryo, the preliminary stage of "pourparlers" having not yet been passed, but it is said that the proposal has met with a favorable reception in several quarters.

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## THE LIMITATIONS OF MODERN MEDICINE.

The nineteenth-century doctor leaves the world far better than he found it, largely through his patient, steadfast efforts along lines of scientific research. In all matters of advanced thought and human progress the medical profession occupies the outposts. The power and influence placed earlier in other hands now belong to the scientist. The physician is the greatest of all missionaries. To him the practical needs of humanity are best known, and the questions of the hour form a part of each day's study. The problems of human life confront him at every turn. In spite of himself, the physician of modern times is elevated to the position of a functionary of the highest order, invested with the welfare and happiness of the human race. Usually he is equal to the emergency. To-day the intelligent minority calls upon him to state his place in nature, to define his limitations. Enlightened society has become one vast interrogation-point.

The limitations of the physician are the limitations of medicine. The old superstition that for every disease there exists some special remedy is fast wearing away, and with it the implicit faith in drugs that originated when the healing art was the monopoly of monks and priests. Diseases themselves are perfectly natural, arising in obedience to law and pursuing an orderly course. They are the best possible conditions (under the circumstances), and the expression of beneficent forces striving to rid the organism of an influence that produces chemical or mechanical combinations not in harmony with the present environment. A state denominated disease in the complete human being may be common to fœtal life or to some lower form of animal existence. Diseases are all right *whenever they exist.* They are not inimical entities, to be fought with all manner of earthly and unearthly weapons. It is quite reasonable to suppose that the power which called them forth is, in many instances, quite adequate to their removal. Of this there are countless proofs. Clinical annals furnish records of the spontaneous cure of cancer, tuberculosis, and malignant fevers. Marvelous recoveries take place under the most rude and pernicious medication. Nature is not only capable of removing the original disease, but also the artificial disease that is too frequently superadded by energetic ignorance. The strong tendency to recovery in all acute affections is now generally admitted, and the self-limitation of certain maladies an established fact. The *vis medicatrix naturæ* is no imaginary power, but a living reality. Otherwise it is quite impossible to explain the former reputation of substances now known to be inert or of small curative value. To this source may be attributed in large measure the healing powers of the Voudoo, medicine-man, and the priests of savage tribes. In the midst of life we are in the hands of nature. From this there is no escape. It is at once our greatest comfort and despair.

A paper read recently at the Post-graduate Clinical Society, by Dr. S. S. Burt, on "Some of the Limitations of Medicine," amplifies this idea in suggestive and instructive fashion. The probable reason, says the author, why treatment has not kept pace with pathology is that therapeutics has gone astray. The fruitless search for specific remedies wastes time and talent. Useful and indispensable drugs, tested by experience and close free-minded observation, are double-edged tools, working both ways, only safe in trained hands. Eagerness to relieve pain and restore health tends to make the physician overlook nature's agency in the cure of disease. The skillful practitioner stands by, ready to do his part in the restorative process, knowing when to act and when to do nothing. The man who recognizes fully the limitations of medicine is the safest and most practical adviser. The ills that flesh is heir to are, to a great extent, the ills that flesh brings upon itself. Ignorance of the law is no excuse. A man's motive weighs nothing in the scale of nature. The inability to appreciate that man is but a molecular vibration in the great pulsation of life allows him to hope that action will not be followed by reaction. No amount of therapeutic skill will ever be able to atone for the fatal mistake of unwise parentage. The laws of generation are as applicable to man as to the lower animals. Inheritance is made clear by the hypothesis of pangenesis—viz., "every unit or cell of the body throws off gemmules or undeveloped atoms, which are transmitted to the offspring of both sexes, and are multiplied by self-division. They may remain undeveloped during the early years of life, or during successive generations, and their development into units or cells, like those from which they are derived, depends upon their affinity for and union with other units or cells previously developed in the due order of growth." Here is a rational explanation of transmitted predispositions to disease, and also of that particular form of inheritance known as atavism. It is futile to attempt to construct a perfect being out of poor material. To suppose that drugs possess any such power is the height of human folly. Yet this belief—expressed in less bald terms, perhaps—is the foundation of differences of medical opinion among superficial observers, the reason for the survival of absurd therapeutic hypotheses, and the only explanation of mind- and faith-cure vagaries. And, what is perhaps most lamentable of all, this false doctrine makes it possible for the designing to trade upon the credulity of an ignorant public, and do positive harm with nostrums of different degrees of vileness.

The time is fast approaching when hygienic and preventive medicine must supersede in great degree the methods of the old healing art. Less credit given to drugs results in greater reliance on measures that render them unnecessary. And thus a knowledge of limitation becomes an increase of power. It is the physician alone who can lift to a higher level public conceptions of life, death, and disease. In order to fulfill his high vocation of supreme educator — controlling the relations of human life to the outer world—an exhaustive knowledge of all the surroundings of man is essential, a survey of the whole of nature. Without it, the best-intentioned must inevitably fail. To place medicine upon the plane of biology is to give it the only foundation that accords with the spirit of the times. Any effort in this direction deserves recognition and encouragement. When man rises—by means of modern medical instruction—to the momentous cognition that he has power over his own destiny and that of his offspring, life for the masses will begin to be truly worth living.

### THE TRANSMISSION OF DIPHTHERIA FROM ANIMALS TO MAN.

Hydrophobia, glanders, farcy, tuberculosis, and scarlet fever have been, until recently, the only morbid entities generally considered susceptible of being transmitted from animals to man. Dr. Cazenave de la Roche publishes an article in the "Revue générale de clinique et de thérapeutique" for January 2, 1889, to substantiate the new theory that diphtheria shall be added to the list. About a fortnight before writing the article he was called to attend two young women, aged, respectively, seventeen and twenty-three years. They were both suffering from diphtheria. It had developed with abnormal rapidity in each case. Active treatment was adopted, which resulted, on the ninth day, in a radical and almost simultaneous cure. Nothing in the general economy of the villa threw any light upon the ætiology of the disease. Built on the brow of a hill having a southern exposure, the villa was surrounded with pines and eucalyptus trees. Apparently there was no center of mephitism or miasma in the neighborhood, neither was there any trace of an epidemic. The author's suspicions were finally directed toward a pigeon-house near the cistern, and also to a hen-house, each of which was inhabited. This cistern provided the drinking-water for the family. There, doubtless, was to be found the source of contagion—a hypothesis rendered all the more tenable by the fact that, a few days before the disease manifested itself, a violent rain-storm had washed the roofs of the out-buildings and carried the fæcal deposits into the cistern.

Twenty years ago, while in Venice, the author had noticed many cases of diphtheria in the hospital of San Juan y Paolo. He then attributed the pathogeny and the frequent recurrence of the disease to the mephitic emanations of the lagoon. At present he considers that the disease was due to the contamination of the cistern by the numerous pigeons which infest that city. Admitting the possibility of the transmission of diphtheria in this manner, the means of combating it are simple. In places where spring-water and well-water are not available, or where the supply consists of rain-water collected in cisterns, it is well to limit pigeon-breeding and to construct dove-cotes as far away as possible from dwelling-houses. As to the construction of cisterns, they should be built according to the rules of public hygiene laid down by Gania in his work entitled "Utilité des citernes."

## *MINOR PARAGRAPHS.*

### A NEW DEODORANT.

Bromine has for a long time been recognized as being valuable in the treatment of gangrene and foul-smelling ulcers, but until recently its merits as an effectual and cheap deodorant have not been appreciated. It was brought into prominence a few months ago by Mr. Martin, the chemist of the Health Department of this city, who suggested its use upon the earth thrown up in laying the electric subways. As it is a by-product obtained in the manufacture of salt and is not used extensively in the arts, it is sold at a very reasonable price—about seventy cents per pound. It has the property of precipitating the hydrocarbons of illuminating gas, and thus can be used to deodorize the earth exposed in excavations in the vicinity of gas-mains. More valuable than this is its effect upon decomposing organic bodies, which it renders completely inoffensive. This property renders it particularly valuable for use in stables, privy-vaults, urinals, cess-pools, or in any place which may contain foul-smelling organic matters. It is soluble in about thirty-three parts of water, but a solution of this strength is not advisable, as there is a constant escape from it of the vapor of bromine, which is very irritating to the eyes and air-passages, and which may even attack wood and metals. For ordinary purposes it is used in solutions containing one part by weight to about eight hundred of water. In this strength it may be used freely without its affecting anything which it may touch. A few gallons used daily will remove all ammoniacal odors from stables, or a few quarts will thoroughly deodorize the entire plumbing system of an ordinary house. It also might be used with advantage upon ordinary house garbage, which usually becomes offensive so speedily in warm weather. There would appear to be scarcely any limit to its usefulness in this branch of sanitary science, and it will, as soon as its merits are better known, undoubtedly be adopted universally as a substitute for the deodorants now in use, which usually act by substituting one unpleasant odor for another. The only drawback in its use lies in the fact that the undiluted bromine is strongly corrosive, and, if it touches the skin, causes a painful burn. Where it is used in large quantities this can be obviated by opening the bottle or, what is simpler, breaking it under water. As its use becomes more extended it will undoubtedly be put up in pearls or tubes containing only as much as would be needed at one time in the average household.

### THE DURATION OF LIFE IN CANCER OF THE BREAST.

In a recent number of the "Lancet" we find that considerable discrepancies are apparent in the results arrived at by different investigators. Sir Astley Cooper says: "The progress of this complaint is in some persons extremely slow. In general, however, it destroys life in about four years from the commencement." Paget maintains that the average duration of life, from the patient's first observation of the disease, is a little more than four years. Gross gives 38·5 months as the duration of life for those operated on, and 28·6 months for those in whom the disease has run its course without operative interference. His statistics were obtained from combining the results of more than a dozen surgeons, for the most part German. He did not expressly state that in all his cases the duration of life is dated from the time when the disease was first noticed by the patient. W. Roger Williams, F. R. C. S., believes that from this cause, or some other, Gross underestimates the total duration of life in this disease, and that the experience of English surgeons will be found more in accord with his own figures:

The average duration of life in cases of cancer affecting the breast or lower lip is 60·7 months; the rectum, 27 months; the uterus, 24 months; the tongue, 18 months.

### THE HOMING INSTINCT.

Dr. George M. Gould, in a recent number of "Progress," suggests an explanation of that peculiar faculty which enables animals to return to their homes from far distant places and under the most adverse circumstances. He bases his hypothesis upon certain facts in regard to the magnetic and electric forces of the earth, such as their continuity, differentiation, and well-known influence. The theory of an organic magnetometer is neither illogical nor contradicted by any inherent impossibility. At home this magnetic sense-organ is in a state of equilibrium begotten by habit, but remove the animal to a locality where (as is the case) there is a difference of magnetic tension, the sense-organ feels stress, and there are unrest and dissatisfaction. Motion toward the animal's north pole—the home—gives relief; motion away from it, the reverse. The pineal gland, with its diamagnetic acervulus and paramagnetic blood, may be the organ of the magnetic sense. Dr. Gould also hints that nostalgia may result from a physical cause.

### ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending January 29, 1889:

| DISEASES. | Week ending Jan. 22. | | Week ending Jan. 29. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 10 | 5 | 17 | 4 |
| Scarlet fever | 339 | 51 | 287 | 48 |
| Cerebro-spinal meningitis | 2 | 2 | 3 | 3 |
| Measles | 335 | 32 | 301 | 21 |
| Diphtheria | 159 | 39 | 181 | 39 |

**Mineral-waters contaminated with Sewage.**—A particularly unpleasant state of affairs was revealed, as stated in the public press, by a recent report to the Health Board of this city by the Sanitary Superintendent to the effect that water contaminated with sewage was being used in some instances in the manufacture of carbonated waters. The profession should bear this fact in mind when prescribing artificial carbonated waters, and should insist that they be procured from reliable manufacturers.

**The Middleton Goldsmith Lecture** for 1889, under the auspices of the New York Pathological Society, will be given at the New York Academy of Medicine on Saturday evening, the 16th inst., at 8.30 o'clock, by Reginald H. Fitz, M. D., Shattuck Professor of Pathology in Harvard Medical School, on the subject "Acute Pancreatitis, with an Especial Consideration of Pancreatic Hæmorrhage, Hæmorrhagic Pancreatitis, and Subperitoneal Fat Necrosis."

**The "Journal of the Respiratory Organs."**—The first number of a monthly journal with this title, edited by Dr. J. Mount Bleyer, has been issued. It is a sixteen-page octavo journal, containing original and selected articles and extracts from current medical literature relating to diseases of the nose, throat, and larynx. In his "Introductory" the editor states that the journal "is intended to furnish a medium for the communication and interchange of ideas" upon these diseases.

**A Naval Medical Examining Board** is now in session at the United States Naval Hospital in Philadelphia, for the examination of candidates for admission into the Medical Corps of the Navy as assistant surgeons. The board will remain in Philadelphia until March 31, 1889, after which date its sessions will be held at the Naval Hospital in Brooklyn. Fourteen vacancies exist in the grade of assistant surgeon. Further information may be obtained by addressing the president of the board at the Naval Hospital, Philadelphia.

**The Philadelphia Clinical Society.**—At the annual meeting, held on Friday, January 25th, the following officers were elected for the ensuing year: President, Dr. Marie B. Weiner; first vice-president, Dr. Amy S. Barton; second vice-president, Dr. Rebecca Fleisher; treasurer, Dr. L. Bremer Hall; corresponding secretary, Dr. Emily W. Wyeth; recording and reporting secretary, Dr. Mary Willits; councilors, Dr. Anna McAllister, Dr. Cornelia Kahn, Dr. Mary E. Allen, Dr. James B. Walker, and Dr. I. G. Heilman.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the week ending January 19, 1889:*

Dickson, A. H., Passed Assistant Surgeon. Detached from the Pensacola and ordered to the Atlanta.

Olcott, F. W., Assistant Surgeon. Detached from the Atlanta and ordered to the Vermont.

**Marine-Hospital Service.**—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the five weeks ending January 26, 1889:*

Carter, H. R., Passed Assistant Surgeon. Leave of absence extended six days. December 29, 1888.

Wheeler, W. A., Passed Assistant Surgeon. When relieved at Buffalo, N. Y., to proceed to Cleveland, Ohio, and assume charge of the Service. January 3, 1889.

Urquhart, F. M., Passed Assistant Surgeon. To proceed to Buffalo, N. Y., and assume charge of the Service. January 3, 1889. Placed on waiting orders, January 12, 1889.

Carrington, P. M., Passed Assistant Surgeon. Granted leave of absence for thirty days. January 25, 1889.

Williams, L. L., Passed Assistant Surgeon. Granted leave of absence for fifteen days. December 26, 1888.

Pettus, W. J., Assistant Surgeon. Ordered to examination for promotion. January 15, 1889.

Magruder, G. M., Assistant Surgeon. To proceed to Louisville, Ky., for temporary duty. January 22, 1889.

Kinyoun, J. J., Assistant Surgeon. To proceed to Baltimore, Md., for temporary duty. December 29, 1888.

Condict, A. W., Assistant Surgeon. Granted leave of absence for thirty days. January 25, 1889.

**Society Meetings for the Coming Week:**

Monday, *February 4th:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *February 5th:* Medical Society of the State of New York (first day—Albany); New York Obstetrical Society (private); New York Neurological Society; Elmira, N. Y., Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh, N. Y., Medical Association; Hampden, Mass., District Medical Society (Springfield); Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine.

Wednesday, *February 6th:* Medical Society of the State of New York (second day); Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

Thursday, *February 7th:* Medical Society of the State of New York (third day); New York Academy of Medicine; Brooklyn Surgical Society; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *February 8th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *February 9th:* Obstetrical Society of Boston (private).

## Letters to the Editor.

### HAND-WASHING AND LIQUID AND ANTISEPTIC SOAPS.

Brooklyn, *January 19, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: The practitioner who handles many patients in office or clinic finds the merely mechanical side of hand-washing an important one. It means an appreciable consumption of valuable time. In the eye clinic of the Zurich General Hospital I found the late Professor Horner using the following substitute for ordinary soap:

| | |
|---|---|
| Spiritus saponis | 140 parts; |
| Spiritus aromatici | 40 " |
| Glycerin | 20 " |

Not knowing the composition of the first two articles, I have had made a liquid soap that, so far as I can judge, acts rather better than the above mentioned as a cleansing agent, and excels it in simplicity of formula.

Its composition is as follows:

| | |
|---|---|
| White Castile soap | 3 ounces; |
| Alcohol | 1 pint. |

Dissolve, then add:

| | |
|---|---|
| Glycerin | 2 ounces. |

To this can be added any essential oil or oils that may be desired. A bottle of this liquid stands by my wash-basin, and its frequent use proves it an admirable detergent and a decided saver of time. Poured on the moistened hands, it attacks all "matter out of place" more quickly and thoroughly than ordinary soap—due, no doubt, to the solvent power of the alcohol and glycerin—and leaves the skin soft and clean. In "The New York Medical Journal" for August 4, 1888, the following occurs in the "Letter from Paris":

"Professor Reverdin gives the following formula of an antiseptic soap that is quite soft to the hands, cleansing and disinfecting them without causing any irritation:

| | |
|---|---|
| Sweet-almond oil | 72 parts; |
| Soda lye | 24 " |
| Potash lye | 12 " |
| Sulphocarbolate of zinc | 2 " |
| Essence of rose | 9 " ." |

I fancy this is more detergent than antiseptic, for, as "soap is decomposed by all the acids, earths, and earthy and metallic salts" ("United States Dispensatory," 1884, p. 1277), only such antiseptics as are compatible with soap can have any value when combined with it, thus very much restricting our choice in this direction; but whatever articles could be so used could be quite as easily dissolved in the liquid soap I suggest as used by making a new soap, by Reverdin's formula, to which they are to be added.

To use a liquid soap most conveniently it should be kept in a bottle or jar (for example, such as is used for the nasal douche), fitted with a stop-cock, which should stand on a bracket over the wash-basin—thus, with least waste of time and effort, allowing us to keep our hands clean and aseptic.

J. S. Prout.

### CALOMEL AS A DIURETIC.

Knoxville, Tenn., *January 5, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: I have noticed in the "American Journal of the Medical Sciences" of this month, as well as in other recent journals, a mention of the recent discovery of the diuretic action of calomel, ascribing this discovery to Jendrássik ("Deutsch. Arch. f. klin. Med.," Bd. xxxviii, p. 499).

I, for one, do not know who discovered the diuretic action of calomel, but I do know it has been used a number of years as a diuretic. In George B. Wood's "Practice," published in 1849, we find reference to the use of calomel in dropsies occurring from various causes. This fact many of our foreign worshipers, of course, are not expected to know, as they only read literature from a more distinguished source than the writings of their own country, for without a foreign stamp it is valueless in their eyes.

In 1849, Wood ("Practice," vol. ii, p. 339) said: "Calomel is often most advantageously associated with squill in cases which demand at once diuresis and the mercurial influence." In the same volume, on page 343 and subsequently, we find a most valuable dissertation upon mercurials in dropsies in general. It is here stated that mercurials have the power of increasing secretion, and are "often most happily combined with other remedies, whether diuretic, diaphoretic, or purgative, increasing the powers of those remedies at the same time that they exert an independent action of their own. . . . A combination of squill and calomel is considered one of the most efficacious remedies in dropsy."

In my notes of Professor A. A. Smith's lectures, taken at Bellevue in 1883–'86, I find twelve distinct uses therapeutically for calomel—among them a distinct claim for it as a diuretic. He even went so far as to urge it in acute Bright's disease in $\frac{1}{6}$-gr. doses three or four times daily, after all other remedies had failed of diuretic action. I have learned to value highly a combination of digitalis, squill, and calomel in many cases of heart trouble with scanty urine and dropsy; it often acts as by magic. Its merits were first called to my attention by my preceptor, who has used it well on to forty years with happy results in proper cases. The calomel has no small part in the decided diuretic action of this combination. I would urge Americans to search their own literature more carefully in the future, and not to take every foreign idea as original.

J. Sterling Carriger.

### GIVE PYRODINE A CHANCE.

New York, *January 21, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: A paragraph on "pyrodine" in your issue of January 19th, quoted from the "British Medical Journal," would, it seems to me, tend to discourage further investigation of what may prove to be a useful addition to our materia medica. A careful study of Professor Dreschfeld's published investigations of the drug, in addition to a limited personal experience with it, leads me to believe that its toxic effects are but little to be feared if sufficient care is observed in its use. The only toxic effects noted are hebetude, jaundice, and icteric urine, which, from their resemblance to analogous symptoms occasionally following the administration of acetanilide and phenacetine, are supposed to be due to a mild form of hæmoglobinæmia. It has been demonstrated by experiments on lower animals that doses of the drug not exceeding one grain to a pound of the weight of the animal produce no ill effect. In none of the very large number of cases treated by Dr. Dreschfeld and his colleagues was there any tendency observed to heart-failure or collapse—symptoms which, as we know, drove kairine from the field of therapeutics and which occasionally occur from the use of antipyrine. It has seemed to me that the toxic tendency of pyrodine is amply counterbalanced by the fact that it is seldom necessary to administer more than one dose in eighteen or twenty-four hours, except in cases of very high temperature, as its effects are maintained for a longer period than those of other antipyretics. I have myself taken several average doses (eight grains) of the drug experimentally with no appreciable effect beyond a slight lowering of the normal temperature. In several cases of febrile disorders in which I prescribed pyrodine, and which I hope to report more fully at a later day, the antipyretic effects were well shown. No toxic symptoms were observed in any case. Dr. Dreschfeld believes from a limited experience that the drug may prove useful in migraine and other nervous complaints. I have not tested it in this class of cases. Without discussing the question of the value of antipyretics in febrile conditions, we may certainly say that a drug which has been shown to produce so marked an impression on high temperatures as this has done, merits a more extended investigation. It is my belief that pyrodine may be safely administered in doses of from eight to sixteen grains daily to adults, and from four to eight grains daily to children, for several consecutive days. It is a comparatively untried drug, however, and sufficient time should be allowed to elapse between the doses to ascertain that the patient possesses no idiosyncrasy with regard to its action. Those wishing to investigate the subject more fully are referred to the paper of Dr. Dreschfeld on the therapeutical action of the drug, and the report of Dr. R. Wild on its action in the frog and terrapin, published in the "Medical Chronicle" for November, 1888. These, with the exception of the observations of Lépine, which have not been accessible to me, are the only reports of the drug which have so far appeared. James K. Crook.

## PERSISTENT URTICARIA, YELLOW SCLEROTIC, AND RED URINE FROM THE USE OF PICRATE OF AMMONIUM.

500 N. Jefferson Avenue, St. Louis.

*To the Editor of the New York Medical Journal:*

Sir: Your valuable Journal circulates to so great an extent in the malarial belt that it seems eminently proper that the writer should briefly note the experience indicated in the above-given caption with an aggravated case of long and persistent malarial toxæmia, in which there existed a constitutional idiosyncrasy against quinine, the smallest quantities of this salt invariably bringing on violent nettle rash, and the patient being so sensitive that the rash was a source of extreme misery and insomnia.

The patient is a business man, forty-five years of age, active, energetic, and prosperous, but subject in the autumn and spring to the toxic influence of the malaria of the Mississippi Valley. His business is that of a lumber dealer, and he can not well be away when malaria most prevails.

His treatment has been mainly Fowler's solution, tonics, mercurials, electricity, and the Turkish bath. Being of a vigorous and resistant organism, the effects of his malarial poisoning showed itself mainly on every third day—irresistible somnolence, nervous symptoms, and neuralgic pains and aches in back and limbs.

It was finally determined to add grain-and-a-half doses of the picrate of ammonium to his treatment every four hours. He had taken but six or eight doses before such an intolerable urticaria appeared that the medicine had to be discontinued after the second day. The urticaria continued for several days after, when the patient was sent North; the urine became a brownish-red and the eyes as yellow as if jaundiced.

No chemical examinations were made. Buchu and hot water nights and mornings changed the color of the urine to a much paler color after twenty-four hours, but the eyes still remained yellow and the nettle rash persisted when he went away a few days ago.

Perhaps some of the younger laboratory men will experiment with picrate of ammonium and tell us if this yellow hue of the eyes and brown-colored urine have any clinical significance.

C. H. Hughes.

# Proceedings of Societies.

## NEW YORK SURGICAL SOCIETY.

*Meeting of November 28, 1888.*

The President, Dr. Lewis A. Stimson, in the Chair.

Dr. Abbe showed a man of forty upon whom he had operated five years ago, by a complicated and unique plastic operation, to restore the lower lip. At that time epithelioma had recurred in the cicatricial margins of a scar, covering three quarters of the lower lip which during the three years previous had been extensively destroyed by caustic pastes. The absent lip allowed constant escape of saliva, and the gap extended somewhat beyond the commissure, exposing the teeth and the gums.

Dr. Abbe supplied the deficient lower lip, after excising the diseased tissue widely, cutting the upper lip free from the cheek and gum by incisions from the angle of the nose to the corner of the mouth, and twisting this around until the vermilion of the corner met the remnant of the lower lip. The gap thus left in the cheek was filled by a flap slid up from below. This left the mouth entirely at one side, and it was intended to split it laterally at a later date. Primary union took place with a small mouth, and, as this had stretched to nearly a natural size, the patient had not until now desired any change. The cicatrices were soft and no trace of recurrence of epithelioma had occurred during the five years. He now proposed to have it enlarged a little, as he was going into an out-of-door selling business requiring much stretching of his mouth.

**Case of Perityphlitis; Operation; Recovery.**—Dr. Hartley presented a male patient with the following history: C. A., aged twenty-five, in April of the present year had a sudden attack of griping pain in the right iliac fossa, accompanied by slight diarrhœa, fever, and tenderness in the region mentioned. He had no treatment except poultices, and recovered in the course of six weeks. In July he had a similar attack, from which he recovered in five weeks. On August 29th he had another attack, this time with more general abdominal pain, tympanites, and tenderness in the right iliac fossa. He vomited and had a temperature of 102° to 103° F., his pulse being 100 to 115 and full. The bowels were obstinately constipated and could not be moved by enemata. The reporter performed laparotomy on September 2d, making the incision recommended by

Dr. Sands. The vermiform appendix was found to be surrounded by a layer of yellowish fibrin, which also covered the adjacent coils of intestine. The appendix was much thickened, of a pyriform shape, and was constricted at its junction with the cæcum, but there was no perforation; it contained two fæcal concretions. It was ligated with silk close to the cæcum and was excised. The cavity in which the appendix lay was packed with iodoform-gauze, which was left at the lower angle of the abdominal wound, the latter being closed above this point. The patient had an uncomplicated recovery and was discharged at the end of five weeks. He was now in perfect health. The case was reported simply as contributing evidence to the intraperitoneal situation of perityphlitis.

**A Contribution to the Surgery of the Bladder.**—Dr. Willy Meyer read a paper with this title. (It will be published hereafter.)

Dr. Rockwell asked the reader why he gave the preference to epicystotomy in the removal of small calculi.

Dr. Meyer said that he preferred this method even in the case of small stones, since it required no more time for its performance than did median section.

Dr. Rockwell explained that he referred to lithotripsy.

Dr. Meyer said that most of the German surgeons preferred the cutting operation to lithotrity, perhaps because they were more familiar with it, and then on account of the few minutes the former required. Furthermore, a recurrence of stone was more frequently seen after lithotrity and litholapaxy respectively, than after lithotomy.

Dr. Wyeth asked if loss of muscular power had ever been noted after transverse section of the rectus abdominis.

Dr. Meyer replied that a hernial tumor, which contained the bladder, might develop, although this result had not yet been observed. Roser had cautioned against this, and proposed not to divide the insertion of the recti muscles entirely, but to preserve a portion of it on both ends of the incision. But such a loss of muscular power had occurred just as well if the recti tendons had been divided in using the incision in the linea alba. It was important not to incise the internal pillar of the inguinal canal at the external aperture of the same, since inguinal hernia might be the consequence. Bruns made this experience in a child. In one instance Dr. Meyer had seen the spermatic cord (but covered by tissue) from the line of the incision. Trendelenburg had made the cross-section sixteen times without having a case of hernia. He advised the operator not to cut, but simply to press his knife against the muscles until they gave way, and to make a long cross-incision somewhat downward, convex, so that the ends of it ran parallel with the inguinal canal. It was certainly possible to obtain more room by this incision.

Dr. Wyeth thought the poor drainage might be due to the T-tube. He was accustomed to make a hole on either side of the vertical arm, and to introduce a second smaller tube at the side of the long piece and attached to it, through which water was injected into the bladder. It would then flow back through the T-tube, on the principle of the double catheter. He had never sutured the wound in the bladder, and preferred not to do so except in cases in which the operation was done for the removal of a foreign body, and there were no evidences of cystitis. The vesical wound tended to close spontaneously without suture. The introduction of sutures was difficult, and served to prolong the operation; their use was contra-indicated in cases of hæmorrhage and chronic cystitis. The speaker believed that epicystotomy was useful in the case of elderly patients with enlargement of the prostate, or where the bladder would be injured by lithotrity. He had lost one patient from shock after lithotrity, the bladder being uninjured.

Dr. Meyer had never observed imperfect drainage when using the T-tube, nor had Trendelenburg in his forty-two cases, nor Assendelft in his one hundred and two cases. The urine escaped during the first time at the side of the tube, as well as through it. If a blood-clot or piece of a tumor should obstruct the tube, it could easily be removed by irrigation, a catheter being introduced by way of the urethra. In regard to suturing the bladder, he thought that it should be the aim of the surgeon to close the wound of the bladder in this way, the same as after opening any other hollow viscus, such as the stomach. Lange's statistics were most convincing on this point. Even when there was severe catarrh of the bladder, that surgeon had obtained primary union. Other surgeons, especially Schmitz and Couvée, had noted primary union in about one third of the cases they had collected. Leakage through the wound did not usually occur before the third day, and often not until the ninth or eleventh. In regard to selecting proper cases for suture, Dr. Meyer referred to what he had said in his paper.

Dr. Gerster testified to the advantages of the transverse incision, especially in the case of fat patients, or where it was necessary to make a large opening in the bladder. The longitudinal incision did not give sufficient room. The transverse cut was useful when the pubo-vesical fold of peritonæum was situated so low that the opening in the bladder could not be safely enlarged upward. The operation with this incision was performed more rapidly, since it was only necessary to find the symphysis pubis, to put the recti on the stretch, and then to divide them by simple nicking, the scalpel hugging the bone. The speaker had hoped that there would not be so much liability to renal complications when the bladder was opened and drained in the manner described, but he had had two cases in which the kidneys were affected, one of which terminated fatally. He thought that vesical drainage after epicystotomy was not always perfect, especially when the bladder was atonic and did not contract well. Pockets sometimes existed in the organ, which did not drain thoroughly, even when the patient was kept in a semi-prone posture; on irrigating the bladder through the urethra, masses of pus would suddenly escape at a time when the irrigating fluid had been returning in a clear state for some time.

The President called attention to the fact that the statistics of lithotrity were very favorable to this operation. As a matter of fact, most of the cases of lithotrity were in elderly subjects, and the majority recovered.

Dr. Gerster said, in reply to a question by Dr. Meyer, that in one of his cases of epicystotomy the bladder did not drain well after the third day. In another case it was found by cystoscopy that there was a diverticulum from the bladder. The patient had hæmaturia, the source of which was obscure; after cystotomy had been performed it was found that the kidney was also involved. Under such conditions—that is, in the presence of a diverticulum—good drainage could hardly be expected. The speaker thought that cystoscopy was one of the greatest advances in diagnosis, and that the use of the cystoscope was comparatively so easy that the instrument would come to be quite generally employed.

**Fish-bone removed from a Hernial Sac.**—Dr. Gerster showed the specimen, which he had removed from a peddler, aged fifty-one, who entered Mt. Sinai Hospital for the radical cure of a large irreducible right inguinal hernia (scrotal) that reached as low as the middle of his thigh. The hernia felt solid, except at its upper portion, where it was elastic to the touch and gave a tympanitic percussion-sound. The canal was widely distended, admitting three fingers. The speaker thought that omentum was adherent at the bottom of the sac. The gut was exposed near the ring, and the coils were found to be adherent to the sac and to one another. While endeavoring to free the intestine, the operator suddenly opened an abscess-cavity, evacuating a quantity of fœtid pus. At the bottom of the cavity the fish-bone was felt and was removed; at least one third of the wall of the cavity was formed by intestine, which was covered with a thick layer of lymph, the deeper portions of which were organizing; the superficial ones, however, looked like greenish pseudo-membrane. The patient had given no history of intestinal trouble. The speaker decided not to exsect the gut, but to clear away the fibrin from it, to return it to the abdominal cavity, and to close the ring according to Macewen's method. It was impossible to separate the cord from the mass, so that a portion of it was excised; the corresponding testicle was accordingly removed. The upper portion of the sac was used to form a plug, and the pillars of the ring were subsequently united by six Czerny sutures to give additional security. Peritonitis was feared, but the patient made a perfectly good recovery, the bowels being moved on the second day after the operation with small doses of salts.

In reply to a question by the President, Dr. Gerster said that at the point where the abscess was located there was a sharp bend in the adjacent loop of intestine, the wall of the gut being much thickened and indurated. Probably there was an obstruction of the lumen here, and the bone became impacted and gradually ulcerated, though there was no evidence of perforation.

**Creolin as an Antiseptic.**—The President showed a sample of pure creolin, and also one of a two-per-cent. mixture in water. It was a dark, viscid liquid with a tarry odor, insoluble except in alcohol, a two-per-cent. aqueous mixture appearing as a fine emulsion. He had been much troubled by the fact that secretions from wounds readily underwent decomposition under dressings of sublimate gauze, and had thus been led to try creolin. He had now employed it for two months at the New York and Chambers Street Hospitals, with very satisfactory results, using ordinary purified gauze wrung out in a ten-per-cent. aqueous mixture. The drug was rarely irritating to the skin. It was not only a good antiseptic, but it also arrested parenchymatous bleeding and hastened cicatrization. When applied to ulcerated cancerous surfaces, it was a powerful deodorizer. Chemically it closely resembled a cheap patented disinfectant, sold under the name of "soluble phenyl," but the latter was of somewhat thinner consistence; creolin contained no carbolic acid.

Dr. Hartley said that he had used a two-per-cent. mixture of creolin extensively as a local application in cases of acute dermatitis and eczema with very satisfactory results; it had a decided analgesic effect.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN OBSTETRICS AND GYNÆCOLOGY.

*Meeting of November 22, 1888.*

The President, Dr. Joseph E. Janvrin, in the Chair.

**An Inexpensive Cell for Galvanism.**—Dr. A. H. Buckmaster showed a cell and described its construction (see page 15).

**Report of a Case of Placenta Prævia, with Specimen.**—Dr. R. G. Wierner showed a placenta which had been centrally implanted over the internal os. He had bored through it with his fingers, turned and extracted the child by the feet, while the woman was under ether. The ether had kept the heart in strong action and the subsequent vomiting had aided in producing contraction of the uterus.

**Hysterectomy for Fibroid Tumor, with Specimen.**—Dr. J. R. Goffe showed a large multiple fibroid tumor of the uterus which he had found closely wedged in the pelvis of a woman. It had occasioned the patient much distress, difficult defecation and micturition, hysteria, insomnia, and nervous exhaustion. He had detached it with much difficulty from the bladder. The surface on the bladder from which he freed the tumor he afterward had carried back and used to make a flap over the stump. He then arranged for drainage of the stump by introducing into the cervical canal a Peaslee's applicator which he left there and through which he made daily irrigation. Dr. Emmet had used the same method once for covering the pedicle, dissecting off a layer of the tumor with which to do it; but he had made no drainage by way of the vagina; an abscess had formed and burst on the tenth day, causing the death of the woman by peritonitis.

Dr. A. P. Dudley remarked that he had obtained the best results from a similar plan of procedure.

The President spoke favorably of this new use of the Peaslee's applicator.

**A New Method of Operation for Restoration of the Lacerated Perinæum.**—Dr. A. P. Dudley read a paper with this title. He reviewed the Emmet operation, which he regarded as a difficult one to understand and to perform, and furthermore as based on an inadequate idea of the true nature of the injury to the parts. He had never obtained satisfactory results, although he had employed it for six years previous to his use of his present method.

The speaker then described the anatomy of the female perinæum and particularly called attention to the tendinous union of all its muscles in the median rhaphe. He believed that by far the most common and important element of the injuries sustained in laceration was a separation of these muscles by a rending of their central union with each other, which left them to contract away toward the sides of the pelvis, and thus practically destroy the diaphragmatic muscle of the pelvic outlet.

In a laceration of the first degree, where only the skin and a small part of the perineal body were ruptured, the inconvenience to the patient was but slight, and the muscular separation and the consequent falling apart of the labia would correspond only to that portion of the central tendon which united the fibers of the transversus perinæi and a portion of the fibers of the bulbo-cavernosus. Here rectocele would not be present in the majority of cases, although it might occur. But a laceration of the second degree, involving the whole perineal body down to the sphincter, was a far more serious matter, because it meant the rupture of the central tendinous attachment of all the muscles of the pelvic floor to each other. This took away the chief support of the anterior rectal wall. That thin remaining septum then had to withstand the force of exertion at stool or of other physical efforts. Rectocele soon made its appearance, for in any exertion the force would be exerted in a line parallel with the curve of the pelvic outlet, and therefore transmitted to the remains of the perineal body just at the point where the rectum turned in its course and curved backward toward the anus. The recto-vaginal septum, thinned and weakened as it was at that point, easily bulged forward under pressure from behind into a large pouch. As this pouch was formed, the whole septum or, in other words, the posterior wall of the vagina was dragged down, and so indirectly the uterus was pulled into the axis of the outlet, or even into complete prolapse. The shorter anterior wall being also relaxed, cystocele might also take place. Now, on the other hand, if the laceration had extended through the anus and up the rectum to a point intersected by the axis-line of the pelvic outlet, then all force exerted by physical efforts would meet with no resistance at the point where the perineal resistance should be, and consequently there would be no rectocele and no dragging on the uterus. Not only that, but the cicatrix at the top of the rent in the posterior wall, filling it in like a spool held in the cleft of the fingers, was usually a very dense structure and added considerably to the rigidity of the posterior vaginal wall. It was true in such a case that prolapse of the uterus seldom occurred, but this did not prove, as some had supposed, that a rupture of the perineal body alone, in a laceration of the second degree, might not lead to uterine displacements. The laceration of the third degree required a different method of procedure for its restoration, which was not now to be discussed, except that he would say in passing that here, too, no operation on the perinæum which was not directed to a restoration of parts still present to their natural condition could be said to have a sound anatomical basis. He returned to the consideration of lacerations in the second degree attended by rectocele and secondarily by uterine displacements. To dispose of a rectocele caused in the manner described, by denuding and tucking in mucous membrane in the sulci of the vagina, as in the Emmet operation, thus drawing the wall straight between the two puckered-in portions at the sides, would certainly not restore the dilated and thinned tissue of the recto-vaginal septum to its normal thickness at the center of the posterior wall, where pressure was going to come again, just as before the rectocele began to be formed. Furthermore, the deep perineal sutures, made externally as the second step by Dr. Emmet and many other operators, could not return the separated fibers of the central tendon to connection with each other for the following reason: In Emmet's operation, and in all others where denuded mucous membrane in the vagina was brought together so as to make more or less of an infolding at the middle of the recto-vaginal septum, this fold interposed itself between the separated edges of the tendinous aponeurosis of the pelvic diaphragmatic muscle. Their union with each other, or any restoration of muscular action in this diaphragm of the outlet, was thus prevented, no matter how closely the sides might be pulled together by the sutures. The essential point in the operation which he was to describe, and the only one which was, as he thought, an original one, was to use a peculiar stitch which drew upward all the mucous membrane at the middle of the posterior wall, so that none of it could interpose itself when afterward he drew together into apposition the parts containing the tendinous central rhaphe.

The twofold object to be gained by operation was to get the tissue of the rectocele back into the vagina to the point from which it originally started, and to restore the lacerated fascia and muscles which had allowed it to occur back to their proper connections in the recto-vaginal triangle. To secure these results he had for two years past used with entire success the following method: The labia were separated with the fingers, and the rectocele was drawn down with a tenaculum until slight resistance from above was felt. The crest of the rectocele was then snipped slightly in the median line as a guide to the point to which the denudation was to be carried. The labia were then brought into apposition and the points noted and snipped where the remains of the hymen on each side came together. The two latter points marked the height to which the semicircular denudation should be carried on the external genitals or outer portion of the perinæum, also the points from which the triangular denudation of the posterior wall should start as a base, the apex at the center of the posterior wall reaching a much higher point. When the denudation made in this form was brought together from side to side, a long suture resulted, giving a thickened cord down the center of the posterior wall, where strength was most needed, while the peculiar stitch employed insured the whole being well drawn upward from below. The wound being ready for sutures, the left forefinger was passed into the anus and carried up to the apex of the denuded surface, and the first suture was introduced at that point. He introduced the needle a little outside the median line and passed it from behind forward or from above downward, and brought it out on the median line of the denuded surface. The needle was then reintroduced an eighth of an inch from its exit and carried out, back, and up through the opposite half of the denuded surface. The stitch then had the form of a V, the apex of which pointed toward the vaginal outlet. This first suture was then tied securely, and acted as a fixed point from which to work. This first suture, as it was drawn tight, would draw up its apex attachment toward its two basal attachments, and so a little of the tissue of the rectocele would be drawn upward. Without cutting his thread he then made another similar V-shaped suture just in front of or below the first, drew it tight, and held it so while he carried the thread over and made a third and a fourth. As each suture was drawn tight, more and more of the posterior wall was drawn up, and this process was furthered by taking a probe and tucking back the tissue of the rectocele under each suture. As the closure and drawing up proceeded from the apex toward the base of the triangular denuded surface, the sutures were each to be passed at a little less of an angle, until when abreast of the remains of the hymen they passed nearly transversely across. The inside work was then finished; the suture was to be passed twice through the same needle-track, and so made fast, and its course then changed so as to do the second part of the operation with the same thread. He preferred for suturing in this operation catgut taken directly from the juniper solution.

A number of deeply buried sutures were then passed through the external perinæum from this point as far down or back as the end of the rent. They passed through the edges of the separated tendon of the perineal body, and drew them into actual apposition, a thing now made possible by the stitch used in the first part of the operation, for reasons already given. They were not different, except in their effect thus obtained, from the deep sutures used in operations for lacerated perinæum by other writers. These being completed with an over-and-over stitch, he came back with superficial sutures to the point where the deep sutures began, and the operation was complete. A Sims speculum was then introduced and the parts were inspected for bleeding points or gaps in the mucous membrane, and were then thoroughly dusted with iodoform, no other dressing being needed. He then let the wound rest for four days without inspection, unless there was a rise of temperature. When the healing was complete all the functions of the parts were restored; the levator ani, bulbo-cavernosus, and other muscles acted as strongly as if no laceration had occurred, and scarcely any evidences, objective or subjective, remained of an injury ever having been received.

Dr. W. R. **Gillett** discussed the operation as done by Dr. Dudley, and thought the stitch used an entirely new one, which would accomplish what had never otherwise been done, in long-standing cases of laceration especially.

Dr. J. W. **McLane** remarked that he too had failed to get good results from the Emmet operation, and had done best with a method of operation similar to Dr. Dudley's, except that his successes had been in cases treated just after laceration. Where the muscles had had time to retract, and especially after rectocele had appeared, it must be necessary, in order to restore the parts, that the ground which had been lost should, so to speak, be retaken. He agreed with Dr. Dudley as to the importance of the muscular floor of the perinæum. He was not aware that any method similar to his, at least as respected the style of suture, had as yet been published.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN THEORY AND PRACTICE OF MEDICINE

*Meeting of November 20, 1888.*

Dr. R. C. M. PAGE in the Chair.

**Oxaluria, especially in Relation to Uric Acid.**—Dr. DEBOUT D'ESTRÉES, of Contrexeville, in the Vosges, France, read a paper with this title dealing with the excessive production of oxalate of lime in the economy. Deposits of the oxalates were as rare in France as they were common in the United States. On the other hand, the uric-acid calculi, so common among Frenchmen, had seemed to be the exception in those Americans who had come under his care. Various authorities had thought the production of oxalate of lime instead of uric acid due to a nervous influence, to excess of nitrogenous food, to lack of oxidation, either in the lungs or in the tissues, to acid fermentation (especially apt to occur on a diet of potatoes), or to several of these causes combined. His own observations had led him to believe that oxalate of lime in the normal urine might result from foods containing it—such as rhubarb, tomatoes, celery, sorrel, water-cresses, and green fruits. It might also represent an incomplete oxidation of uric acid. In calculi and in gravel, uric acid and oxalate of lime were frequently to be seen occurring side by side. They probably had a common origin, for in some patients they occurred both together and at particular times, each without the other.

As to the difference between his own countrymen and Americans in regard to oxalate of lime and uric acid, he would suggest causes and submit them to the Section for review. Uric acid in the urine seemed to occur more from heredity, overfeeding, and sedentary habits; oxalate of lime from dyspepsia and nervous exhaustion. Was not the mode of life in America, with its fast living, strain, and neglect of rest and good digestion, such as would rather produce oxalate of lime than uric acid? The French, certainly, sedentary by taste or profession and too fond of high living, made themselves subject to what he considered the prevailing cause of uric-acid formation.

Dr. E. L. KEYES remarked that he had visited Contrexeville himself, and had found the situation very pleasant. He had there found many Englishmen suffering from a uric-acid or oxaluria diathesis, and had also met Playfair, who was enthusiastic over the virtue of the place and its springs. He had sent patients there with catarrhal affections of the urinary tract, who had been much benefited. In the case of one patient a large amount of oxalate of lime in his urine was entirely replaced by fine crystals of uric acid. He returned home benefited in many ways, although, before long, oxalate of lime again predominated. However, after passing a stone, he had regained health. Various mineral springs in this country were of benefit in debilitated and catarrhal conditions associated with oxaluria through their laxative and diuretic effect, but none were so likely to cause the disappearance of oxalate of lime as the waters at Contrexeville.

Dr. G. B. FOWLER believed in the existence of a so called oxalic diathesis, of which indigestion and nervous depression were marked features, also that imperfect oxidation from heart or lung difficulties might be the cause of oxalate of lime in the urine. He thought that the treatment should be dietetic. A simple diet must be found which was completely digested, and which should vary with different patients. He thought no mineral water had any solvent action on oxalate of lime as such, but that the free use of some waters might promote assimilation and glandular action, and so give aid in oxaluria.

Dr. D'ESTRÉES, in closing the discussion, said that the benefit obtained in both the uric-acid and the oxaluria diatheses at Contrexeville did not result simply from the patients drinking large quantities of the water, as Dr. Fowler seemed to infer. They had learned to limit the amount of the water drunk very carefully. He had not found oxaluria associated with phosphatic gravel, that Dr. Keyes spoke of having been so common in his experience.

**The Treatment of Catarrh and Functional Disease of the Stomach and Bowels.**—Dr. W. W. VAN VALZAH read a paper with this title, the object of which was to put forward a clinical method of dealing with catarrhal and some functional disorders of the digestive tract. The treatment consisted of a diet of animal food, especially of beef and beef-pulp. The best meat was the center of the round of a corn-fatted steer six years old, broiled over a charcoal fire and eaten with butter, salt, and pepper. Dried beef, chopped beef, oysters, game, and beef extract were sometimes of service in giving variety. It was sometimes necessary to begin treatment with the fresh beef-juice only; and often a little toast was useful for a short time at the outset. Lack of appetite was apt to mean either that bile or food still remained in the stomach, or that the patient was overtired. When catarrh of the stomach was present, the diet for from one to three months should be such as insured rapid digestion. For such patients he was accustomed to recommend milk warm from the cow, drunk very slowly, or peptonized milk. Milk and beef together gave the best results of all if they were well digested. As recovery became evident, peas, string-beans, and fruit could be added to the diet cautiously. However, the patient must always be careful of what he ate. The mucous membrane remained sensitive to the end of life.

Moreover, it was necessary to study everything about the patient's mode of life which could have a bearing on digestion. To stop the excessive fermentation of his food was of the most vital importance. Hot water before meals was useful to prepare the stomach, wash out bile, raise nervous tone, and increase circulation. It favored downward peristalsis, whereas cold water had just the opposite effect. It was to be drunk very slowly (twenty minutes to a glassful), at a temperature of 120°. Where catarrh of the stomach was present it should be taken at least two hours before eating. Where the heart was weak or a hæmorrhagic tendency existed, and during menstruation, it should be lukewarm.

If there was nausea, it only proved the need of washing the stomach out. Coffee and tea were to be limited. To rouse the energies in the morning the reader had got good results from one sixteenth to one twentieth of a grain of strychnine given in hot coffee sweetened with saccharin and glycerin. Lemonade was of use in some cases; pepsin and pancreatin in others. Of medicines, the less given, on the whole, the better. When catarrh of the duodenum existed, hydrastis before meals was of some value. Salicine was very good to check fermentation. The bowels were to be kept open by occasional laxatives of various sorts, or by enemata of water, oil, or glycerin and oil. In salol he had been disappointed. A happy mental state must be induced in a patient before recovery was possible. Resting before and after meals and much sleep were to be insisted on. He sometimes kept his patients in bed all the afternoon.

There was often a temporary loss of flesh and strength when this treatment was begun. The stopping of fermentation itself tended to weaken a patient for a time by the withdrawal of the stimulation previously caused by its morbid products. In catarrhal cases the condition might last for some months. It was important here that the patient should not become very tired at any time and that he should never eat when feeling wearied. However, during this time, examination of the blood-corpuscles would show an increase in their number and color.

At intervals there would be attacks of biliousness with headache, pain, and much fermentation, followed by large evacuations containing mucus and bile. These represented a sort of house-cleaning process which the body carried out from time to time. At such times a short period of fasting was advisable.

Functional digestive disturbances did not need so radical a line of treatment. The diet should consist of three fourths of animal food and one fourth of starchy food in the form of dry toast, rice, or cracked wheat. Celery, cresses, or spinach might be chewed without swallowing the fiber.

If cases were at all recent, improvement would soon follow. In robust persons the mucous membrane in the bowels would remain unaltered by fermentation, but in the weakly very great changes were apt to occur in a short time. The carbonic-acid fermentation was the most harmful one. In all cases the blood, the urine, and the stools needed constant examination, both chemically and microscopically. The thing always to be ascertained was whether the patient was really taking to pieces and working up what he was swallowing.

Where patients could not afford, or had not time for, or lacked determination to persist in the radical method of treatment, other methods could be used; but in old, inveterate cases he knew of nothing to equal a milk-and-beef diet. Many mild cases would improve markedly if one solid meal were allowed at midday, with milk for breakfast and supper. But he would repeat that in every instance the physician owed it to himself to find out by direct examination what became of the food ingested.

Dr. A. Caillé believed that if digestive troubles were to be successfully dealt with it was necessary to have at one's fingers' ends all the common causes or conditions of disease in the stomach or elsewhere giving rise to dyspepsia. Such were simple acute indigestion from overeating, acute catarrh of the stomach, indigestion from bad teeth or neglect in chewing, from age, from constipation, from anæmia, or from dilatation of the stomach due to simple distension or to carcinoma obstructing the pylorus.

As to diet, he had succeeded best with a liberal diet, together with attention to other things. He would of course forbid such articles as cheese, pork, pastry, beans, and lobster; and he advised that fruits be stewed. Salt pickles and green salads seemed rather to aid a weak digestion than otherwise. He began his treatment by opening the bowels with calomel and podophyllin and then ordered muriatic acid, wine of pepsin, and hot water drunk before meals. In acid dyspepsia he used the dilute hydrochloric acid. When the patient was hungry between meals he had found that a piece of sweet chocolate would remove the disagreeable sensation. When cases proved intractable he washed out the stomach with the siphon, using warm, mildly alkaline water. But unless these washings brought away bile or mucus they were of no avail. They were very useful where dilatation existed, especially when combined with electricity and massage. Many cases of dyspepsia were due to the overuse of tobacco. Many of these patients should use no tobacco whatever.

Dr. Henry Schweig believed that dyspepsia was very frequently a constitutional thing and was often connected with catarrh of the upper air-passages. He had seen cases where no improvement in the digestion could be obtained until catarrhs elsewhere had been cured, and *vice versa*.

Dr. J. C. Peters remarked that he had come to rely on a dietetic treatment largely. He gave palatable and easily digested foods, but allowed scarcely more than a single article at each meal. With each meal he changed to a different article. This allowed for a wide range in choice, and yet the digestion, strength, and weight improved under it as rapidly as under any special regimen—more rapidly, in fact. The meals were given about four hours apart. Hydrastis and pulsatilla were each of use in appropriate cases; and sulphate of manganese was one of the best drugs he knew of to cause a healthy flow of bile. If we wished to give Carlsbad salts, sulphate of soda was the same thing, and far cheaper.

## NEW YORK ACADEMY OF MEDICINE.

*Meeting of November 1, 1888.*

The President, Dr. A. Jacobi, in the Chair.

**Sudden Heart Failure in Diphtheria, its Pathology and Treatment.**—Dr. J. Lewis Smith read a paper with this title. He remarked on the singularity of sudden symptoms of failure of the heart's action which at times appeared during the convalescence of diphtheria, perhaps shortly after the physician had made to the family a favorable prognosis. The scene changes suddenly, the pulse becoming at first slow, then rapid and feeble, the respiration shallow, the surface pallid or even cyanotic.

In some cases by active stimulation the patient might recover from the attack, but it was likely to recur in a few days. These cases usually ended in death, although a recovery was possible. On account of this unforeseen and so often fatal complication, the reader regarded diphtheria as one of the most deceptive of diseases. He recited several typical cases which he had selected from the records of M. Cadet de Gassicourt, whose accounts were very complete. In the first case there were signs of palatal and pharyngeal paralysis on the eleventh day. On the morning of the twelfth day there had been a chilly feeling, slight cyanosis, and some dyspnœa. The pulse, at first slow, became rapid; the patient was agitated, trembled, groaned, and seemed prostrated. An hour later he became greatly excited, screamed loudly, and in a moment fell back dead. In other similar cases it was ascertained that the pain causing the cries was precordial or epigastric. In other cases death occurred without moaning or agitation, and the pulse remained abnormally slow. Vomiting sometimes succeeded in the cases where there were abdominal pains. A careful microscopic examination had shown no changes in the pneumogastric nerve, or the medulla, or in the heart muscle, in these cases; but in the spinal cord there had been swelling and degeneration in the anterior gray columns at points not specially connected with the heart. In several of his cases there had been an early development of paralysis in many parts of the body, and death had finally taken place from heart failure and asphyxia combined. In some instances the heart failure had been gradual. Gassicourt reported only one recovery to fourteen deaths where the symptoms of heart failure had once appeared.

When inquiry was made as to the cause of this sudden loss of power in the heart, we naturally looked in several possible directions. Was it from disease of the heart muscle, from thrombosis or clots in the heart cavities, or from disease affecting the medulla or pneumogastric? The branches of the latter nerve supplied lungs and stomach as well as heart, and these three organs seemed in most instances to be affected at the same time. The accompanying dyspnœa, nausea, and abdominal pains might be thus explained. It had been quite well established that endocarditis was not the cause of heart failure in diphtheria. A more probable cause was a weakening of the heart fiber by a granulo-fatty degeneration due to the prolonged action of the diphtheritic poison. Twenty years ago Oertel had described the condition of the heart muscle in cases dying of diphtheria as soft, pallid, and friable, with the initial stage of fatty change; but we knew this was so in certain cases only. In a larger number of the class of cases under consideration the failure came during convalescence; it was sudden and preceded by no weakening of the heart action in the days before the attack. The heart fiber was often found to be in perfect condition.

As to thrombosis or the formation of clots in the heart cavities, several writers had pointed out that, when present, they did not differ from those found after death from other causes, and were probably formed during the death struggle. Dr. Beverley Robinson had been the leading advocate of the idea of their being causative of this form of heart failure.

The reader thought it well to bear in mind that in most instances paralysis had existed in the velum palati and elsewhere for some time previous to the heart failure. This paralysis extended from point to point until suddenly the heart and other central organs fell under the influence of some similar and powerful nervous disturbance. The best explanation to him was a more or less sudden arrest of the innervation of the heart, together with vomiting, epigastric pain, and dyspnœa—all from the same cause that had already produced the palatal paralysis and loss of tendon reflexes, etc.

Many observers, including Charcot, had believed these nervous disturbances were due to a peripheral neuritis, and that condition had sometimes been found, but not regularly. Others, finding at times changes in the central nervous system, credited the sudden heart failure to these. Dr. Jacobi in 1880 had expressed an opinion that it was not always due to the same cause. Now the supposition of a neuritis or central changes, or both, would not explain some cases where the microscope showed an apparently normal condition in the nerve supplying the paralyzed part, and also in the portion of the spinal cord from which it arose. Nor in other cases, where loss of tendon reflexes appeared in the first day and palatal paralysis in the second or third, was it likely that neuritis should have been developed so soon. Especially did it seem unlikely, when we considered the tendency of these paralyses to shift about suddenly from point to point, that there could be accompanying degenerative changes and recoveries in the central or peripheral nervous system. Furthermore, when changes had been found in nerves, not all the fibers had been affected, and we should not expect complete paralysis of a part unless this change were complete. Against the idea of a change in the central nervous system was the fact that it was often a single branch of a given nerve which suffered, the other branches escaping entirely. The present theory as to the ætiology of diphtheria and all its symptoms was the same substantially as the idea advanced by Trousseau that there was a poison present in the blood. We now believed that the bacteria producing the disease had a local site only, and multiplied on the diseased mucous membranes; but that the ptomaines or leucomaines which they produced were carried into the circulation and gave rise to the general symptoms of the disease. No microbes were found in the kidney unless the disease took on a septic form, which was now rare since antiseptic washes had been in use, and forcible removal of the diseased membrane and the use of escharotics had been abandoned.

As to treatment of threatened heart failure, it would necessarily consist in enforcing complete quiet of body, with the head placed low. Hypodermic injections of brandy, ammonia, musk, and the electrical current should be employed successively to sustain the heart action. If the first attack was survived, the patient should be kept on predigested beef and milk preparations, and iron, moderate doses of quinine, strychnine, and electricity should be employed as nerve stimulants, strychnine being the best of these by general consent.

The President suggested the following points for discussion: 1. Were cases where heart failure occurred early identical in nature with those where it came late in the course of the disease? 2. Were the cases with an abnormally slow pulse essentially different from those in which the pulse was rapid? 3. Was the cause the same in cases following a general paralysis as where heart disturbance preceded any other paralyses?

Dr. A. L. Loomis, being asked to open the discussion, said he had only met with two cases of sudden heart failure in diphtheria. In one of these he made an autopsy. In both, the attack occurred during convalescence, on about the twentieth day and very suddenly, and both died instantly. In one, the patient, a girl of twelve years, had attempted to rise from a sofa, and had at once fallen back dead. The autopsy, which in this case was permitted, showed a flabby heart, with a dilated right ventricle and a diffuse granulo-fatty degeneration of the muscle substance. The cavities were distended by large, firm blood-clots.

He considered sudden heart failure in diphtheria due to several possible causes, any of which might be the chief one in different cases. When it occurred early in the disease, he had supposed it due to the general diphtheritic poison, and similar to the heart failure sometimes occurring in typhus fever. To account for the other cases he had yielded to the generally received opinion that a suddenly developed neuritis was its immediate cause. He had no evidence either for or against this theory.

Dr. A. Caillé remarked that in the earlier years of his practice he had held that children with diphtheria should be kept as much as possible in the open air, but he now believed it better to keep them confined to bed, so as to reduce the chances of heart failure to a minimum. He had once had a case where a girl of ten years had an apparently light attack of diphtheria, a deposit being seen on the two tonsils only. He had given his usual order, according to which she daily took gentle exercise in the open air. However, on the eighth day, while walking slowly with her mother, she had suddenly become greatly distressed, and had to be carried home. He found her in bed and suffering from heart failure. She had refused to take any alcoholic stimulant for what she considered moral reasons. She had remained in bed two months, during which time there developed a thrombosis in the right leg, then hemiplegia of the whole left side with aphasia, then pneumonia, and subsequently acute nephritis with abundant albumin and granular casts. She had finally recovered, but was left with contractures on the left side and some atrophic affections elsewhere. He believed the complications were the results of the walking he had advised, and the refusal on the part of the child to take whisky. In another case fatal heart failure had come on, caused apparently by the patient's eating heartily of fried clams and cabbage two hours previously, of course contrary to advice. He believed that, if the physician could enforce absolute rest in bed and correct diet, and if sufficient stimulation was employed, sudden heart failure would become very rare in diphtheria.

Dr. Beverley Robinson had at one time made many autopsies on children dying of diphtheria. He had no definite opinion as to the paralyses which occurred late in the disease, but he had had reason to attribute the heart failure which occurred during the acute stage of the disease to the formation of clots in the right heart and to granulo-fatty degeneration of the heart-wall (a change which seemed to him more frequent in this than in any other disease, and nearly always to be found after deaths from diphtheria in its acute stage). He had found that these deaths by cardiac failure did not really take place suddenly, but were preceded by considerable heart distress for forty-eight hours previous to death. Fibrinous clots formed in the heart cavities, as he believed, some time previous to death. He had made a special study of them. They were entirely fibrinous and often disposed in layers, and seemed to have lain in the heart a considerable time. They remained a considerable time in the heart cavity without altering the cardiac contractions or affecting the general sensations of the patient. The possibility of their formation without a preceding structural change in the heart had been shown by experiment. In some of these cases, where clots had formed, more or less broncho-pneumonia had accompanied. He had believed that the practice of giving large doses of the chloride of iron had a bearing on the formation of these clots, and was not a wise measure. He, too, had considered the late paralyses due to a form of neuritis, but this was only a presumption.

Dr. J. H. Fruitnight held that all of the conditions which had been found at post-mortems were still incompetent to explain the heart failures such as occurred in some cases; but that a sudden toxæmia from the liberation of ptomaines was an entirely plausible theory. On this supposition preventive treatment became of great importance, one of the best remedies in which was the tincture of the chloride of iron. If it produced heart-clots it should have done so far more often, seeing how many thousands of patients had been given this remedy.

Dr. Seibert thought we should distinguish between cases of collapse or heart failure in which the diphtheritic poison acted directly on the central nervous system during the acute stage, and the deaths late in the disease due to change in the heart muscle, where a slight exertion, as of sitting up or even raising the head, might cause heart failure. As illustrating the first class of cases, he related an instance where an able-bodied man of thirty years continued at work until within two days of his physician's discovering that he had a gangrenous diphtheritic membrane in his throat, a pulse of 40, and a temperature of 96° in the rectum. He recovered by a very liberal use of brandy during the next twenty-four hours.

Dr. Dessau thought sudden death in diphtheria might have two causes; during the acute stage particularly it was due to heart-clots, but in convalescence to paralysis of the pneumogastrics. He believed the administration of strychnine to children, even in small doses, a dangerous thing. It had appeared to be the cause of death in one instance he had seen.

Dr. Loomis doubted that clots could form in the heart previous to the failure of heart action, or that they could in any way cause the latter. A true cardiac thrombosis, when it occurred, went with a slow heart failure. He could not understand how the disease or any remedial agent, such as iron, could cause the blood to coagulate more easily. It was the slowing of the current which led to its coagulating.

The President remarked that cases of fatty heart died very suddenly in many instances, and that a degeneration of the heart substance in diphtheria was sufficient to account for sudden heart failure of itself. This or any other disease which left the patient much weakened might end on some slight exertion in death by syncope. The sudden anæmia of the brain thus caused in a very weak patient produced fainting, which was simply not recovered from. When death came late in the disease, a paralysis of the respiratory muscles might be its cause, and might be mistaken for heart failure. The shallow respirations and feeble heart would then be results, and if a perfectly normal heart was found at the autopsy, there would be no cause for surprise. For the treatment of threatened heart failure he recommended the frequent application of the galvanic current in short sessions; also strychnine, both internally and subcutaneously. Since we knew that every case of diphtheria tended toward heart failure, and that most cases died if they reached this point, we should keep this constantly in mind and save the strength in every way possible, and add to it by every available stimulant and heart-tonic. Sepsis was always present in diphtheria, and for this alcohol was needed. Alcohol never harmed in these cases; on the contrary, the most courageous of us usually gave too little.

Dr. Smith, in closing the discussion, recalled the fact that in the typical cases with which alone he had dealt in his paper there was a simultaneous disturbance in the heart, stomach, and lungs. This indicated that the pneumogastric nerve was in some way affected. As regarded heart-clots, patients sometimes rallied from threatened heart failure under free stimulation, and there would be quiet for several days, until the trouble recurred.

# Book Notices.

## BOOKS AND PAMPHLETS RECEIVED.

Atlas of Venereal and Skin Diseases. Comprising Illustrations and Selections from the Plates of Professor M. Kaposi, of Vienna; Dr. J. Hutchinson, of London; Professor I. Neumann, of Vienna; Professors A. Fournier and A. Hardy, and Drs. Ricord, Cullerier, Besnier, and Vidal, of Paris; Professor Leloir, of Lille; Dr. P. A. Morrow, of New York; Dr. E. L. Keyes, of New York; Dr. Fessenden N. Otis, of New York; Dr. J. Nevins Hyde, of Chicago; Dr. Henry G. Piffard, of New York, and others. With Original Text by Prince A. Morrow, A. M., M. D., etc. Fasciculus X. New York: William Wood & Co., 1888.

The Galvanic Treatment of Fibro-myomata. By A. H. Buckmaster, M. D., Assistant Surgeon to St. Peter's Hospital, etc. (Prize Essay of the Alumni Association of the Long Island College Hospital for 1888.) [Reprinted from the "Brooklyn Medical Journal."]

Pulmonary Consumption considered as a Neurosis. Being Two Series of Evening Lectures given by the Faculty of the Philadelphia Polyclinic in the Course of 1888 and 1889. By Thomas J. Mays, M. D. [Reprinted from the "Therapeutic Gazette."]

Recent Researches relating to the Ætiology of Yellow Fever. By George M. Sternberg, M. D., Major and Surgeon, United States Army. [Reprinted from the "Transactions of the Association of American Physicians."]

Nervous Affections following Injury. "Concussion of the Spine," "Railway Spine," and "Railway Brain." By Philip Coombs Knapp, A. M., M. D., etc. [Reprinted from the "Boston Medical and Surgical Journal."]

Some Post-hemiplegic Disturbances of Motion in Children. By Philip Coombs Knapp, A. M., M. D., etc. [Reprinted from the "Boston Medical and Surgical Journal."]

# Miscellany.

**The Medical Microscopical Society of Brooklyn.**—At the next meeting, to be held at the Hoagland Laboratory, on Wednesday, the 6th inst., Dr. H. D. Bliss will read a paper on "Some Observations in Diphtheritic Membranes."

**The Duration of Incubation and Contagiousness.**—We have been requested to publish the following:

"Sir: Ten years ago the Clinical Society of London appointed a committee to investigate the periods of incubation and of contagiousness of the commoner communicable diseases. A certain amount of valuable material was received, but it was thought desirable to defer the presentation of a report until further experience was available. The society has now determined to gather additional information with a view to the preparation of an early report on the subject, and for this purpose has reconstituted the committee.

"The committee is desirous of obtaining particulars of cases which throw light upon the periods of incubation and contagiousness of the below-mentioned diseases, and will be grateful for notes of any cases where the facts can be ascertained with sufficient precision to afford grounds for conclusions.

"It is thought that gentlemen practicing at a distance from large centers of population, and especially those engaged in the public-health service, or associated with schools, would be able to supply information of the kind required. A single case in which the dates of exposure to infection and the appearance of the first symptom can be accurately fixed, especially where the exposure has been limited in duration, would be highly valued.

"The following diseases are included within the scope of the inquiry: Variola, varicella, measles, German measles, scarlet fever, typhus, relapsing fever, whooping-cough, diphtheria, enteric fever, cholera, erysipelas, mumps, and infectious sore throat.

"The committee consists of Dr. W. H. Broadbent, Dr. George Buchanan, Dr. Cayley, Dr. Thomas Barlow, Dr. Alfred Hill, Dr. Isambard Owen, Dr. Thorne Thorne, Dr. Alder Smith, and Mr. R. W. Parker, with Mr. Shirley Murphy, 41 Queen Anne Street, and Dr. Dawson Williams, 25 Old Burlington Street, W., as honorary secretaries, to one of whom communications should be addressed.

"I am, etc., W. H. Broadbent,
"Chairman of Committee.

"Clinical Society of London, *January, 1888.*

"P. S.—An early reply would facilitate the work of the committee."

**The Death-rate of Newport, R. I.**—According to the "Summary of Deaths," published by order of the Board of Health, there were 315 deaths in 1888, including 8from croup, 19 from cholera infantum, 3 from cholera morbus, 2 from dysentery, 9 from diphtheria, 2 from malarial fever, 1 from remittent fever, 4 from scarlet fever, 7 from typhoid fever, and 2 from whooping-cough. The death-rate was 14·31, as against 15·1 and 14·20 for 1886 and 1887, respectively.

**The Health of Kansas City, Mo.**—According to the Health Department's "Weekly Return" for the week ending January 26th, there were 34 deaths, including 1 from croup, 2 from diphtheria, 1 from remittent fever, 1 from scarlet fever, 2 from pneumonia, 1 from pleuropneumonia, and 2 from septicæmia.

**The Health of San Francisco.**—According to the Health Department's "Condensed Statement of Mortality" for December, the whole number of deaths was 473, including 2 from cerebro-spinal meningitis, 1 from cholera infantum, 21 from croup and diphtheria, 1 from erysipelas, 12 from typhoid fever, 4 from typho-malarial fever, 1 from malarial fever, 3 from whooping-cough, 1 from septicæmia, and 2 from small-pox.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending January 25th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| Philadelphia, Pa... | Jan. 12. | 1,040,245 | 360 | .. | .. | .. | .. | .. | .. | 10 | 9 | 2 | .. | 1 |
| Chicago, Ill........ | Jan. 19. | 830,000 | ...... | .. | .. | .. | .. | .. | .. | 5 | 2 | 17 | 5 | .... |
| Brooklyn, N. Y.... | Jan. 19. | 814,505 | 358 | .. | .. | .. | .. | .. | .. | 2 | 10 | 27 | 5 | 10 |
| Baltimore, Md..... | Jan. 19. | 500,343 | 142 | .. | .. | .. | .. | .. | .. | 3 | 1 | 3 | .. | 5 |
| St. Louis, Mo...... | Jan. 12. | 440,000 | 164 | .. | .. | .. | .. | .. | .. | 1 | 1 | 10 | 1 | 3 |
| San Francisco, Cal. | Jan. 11. | 330,000 | 148 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| New Orleans, La... | Jan. 12. | 248,000 | 110 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .... |
| Cleveland, Ohio.... | Dec. 29. | 227,861 | 70 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .... |
| Milwaukee, Wis ... | Jan. 19. | 200,000 | 60 | .. | .. | .. | .. | .. | .. | 1 | 6 | 3 | .. | 1 |
| Minneapolis, Minn. | Jan. 19. | 180,000 | 52 | .. | .. | .. | .. | .. | .. | 2 | .. | 6 | .. | .... |
| Kansas City, Mo... | Jan. 19. | 180,000 | 38 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .... |
| Pittsburgh, Pa..... | Jan. 19. | ........ | 68 | .. | .. | .. | .. | .. | .. | 3 | 1 | 3 | .. | 1 |
| Denver, Col....... | Jan. 18. | 96,000 | 32 | .. | .. | .. | .. | .. | .. | 2 | .. | 3 | .. | .... |
| Camden, N. J...... | Jan. 10. | 70,000 | 31 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .... |
| Charleston, S. C.... | Jan. 19. | 60,145 | 29 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Lynn, Mass........ | Jan. 19. | 50,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Manchester, N. H.. | Jan. 12. | 42,000 | 14 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | .... |
| Portland, Me ...... | Jan. 19. | 40,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | ... |
| Davenport, Iowa... | Jan. 19. | 33,715 | 8 | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .... |
| E. Saginaw, Mich.. | Jan. 19. | 33,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Burlington, Iowa.. | Jan. 11. | 30,166 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa........ | Jan. 19. | 30,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Auburn, N. Y...... | Jan. 19. | 26,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newport, R. I...... | Jan. 17. | 22,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Newton, Mass..... | Jan. 19. | 21,105 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Keokuk, Ia........ | Jan. 20. | 16,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**Damages for the Bite of a Dog.**—The "Boston Medical and Surgical Journal" says: "Some months ago Dr. G. W. Galvin, of Boston, while attending a patient and a new-born infant, defended the child from the savage attack of a large bull-dog, and thereby sustained severe injuries. It was presumed at the time that the brute, who was a pet in the household, was jealous of the new-comer, and carried his sensitiveness to the point of attack. The doctor successfully defended the infant, getting it out of the chamber in the arms of its nurse, but had another fight with the dog, which turned his ferocious attention to him. The man finally gained the contest, but not until he had been so severely bitten that he was compelled to relinquish his practice for a time. He fully recovered, and sought compensation for his injuries, and finally appealed to the law. In court, last week, Dr. Galvin was given a verdict of $700 against the owner of the dog and the mother of the child."

**The "Gazette de gynecologie."**—It is announced that the publication of this journal will be temporarily suspended in consequence of the ill-health of Dr. Ménière, of Paris, the editor-in-chief. For the same reason Dr. Ménière has closed his hospital clinic, and will, until further notice, limit his practice to his private patients.

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**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

THE NEW YORK MEDICAL JOURNAL, February 9, 1889.

## Original Communications.

# THE MENTAL CONDITION IN HYSTERIA.*

By GEORGE J. PRESTON, M. D.,
PROFESSOR OF MENTAL AND NERVOUS DISEASES IN THE BALTIMORE POLYCLINIC.

The study of the curious set of symptoms or group of phenomena embraced under the generic name *hysteria* possesses, to the neurologist at least, a peculiar fascination. Although the condition has been recognized for so many centuries, hardly a decade has passed in its history in which new discoveries have not been made, old theories overthrown, and new ones set up. Charcot, that great apostle of hysteria, has cast a flood of light upon the subject, and his genius and indefatigable industry have placed the study of this interesting neurosis as nearly on a scientific basis as it is possible for it to stand on. The study of this condition is interesting from a diagnostic point of view, since it may enter as a complication into almost any disease of the nervous system for which it has a peculiar affinity, though its simulation is by no means confined to nervous diseases. It is necessary always to bear in mind the fact that with an organic lesion of the central nervous system, particularly in women, hysteria is very often present, and the danger, at first sight, is to give too much weight to this neurosis, at the expense of the organic affection. The wonderful mimicry of hysteria, simulating, as it frequently does in the most perfect manner, some complicated lesion, renders its diagnosis by no means easy. The study of hysteria is important from the fact that it is an affection in which so much can be done by patient judicious treatment. Owing to the many interesting features of hysteria, its literature is very extensive, especially in France, where the disease is seen in its most perfect manifestation. The curious sensory disturbances, the anæsthesias, the histogenetic zones, the paralyses and contractures, have all been described, and at great length, as also the *grande hystérie* and hystero-epilepsy of Charcot and the French school. There is one feature of the disease, if we may so call it, which has hardly received its due attention, and which is certainly one of the most important elements which go to make up the complex neurosis —namely, the mental condition in hysteria.

The limit of this paper allows but the briefest glance at the interesting history of the affection under consideration. We know what a very important part the mental symptoms played in the chorea of the middle ages, which, as we know from the full and graphic descriptions of them that have come down to us, were unquestionable hysterical manifestations. The dance of St. John and St. Guy, and about the same epoch the tarentism of Italy, possessed symptoms of mental aberration no less remarkable than the motor disturbance, or rather underlying these motor disturbances. Such, also, were the demoniac possessions observed in Germany in 1550. At Aix in 1609, and at Loudun in 1632, similar demoniac possessions were observed, the *dénoûment* of which is tragic. At these places the nuns in the convents of St. Ursula accused in both instances a priest of casting over them a diabolical spell. In addition to the bodily contortions which characterized these possessions, there were distinct evidences of mental disturbances, amounting in some instances almost to hysterical mania. Hallucinations, impulsive acts, tendency to suicide, melancholia, were all present in a high degree, and all attributed to the malign influence of a particular priest. Both at Aix and Loudun, as the records tell us, such was the force of the accusations of these hysterical nuns, so strong were their hallucinations and even delusions, and so great the superstition and credulity of the age, that several priests suffered the death penalty at the stake. Under a slightly different form of hysteria we see the *convulsionnaires* of St. Médard in 1731, in whom the mental condition rose to a pitch of wildest delirium, with hallucinations and delusions. Again the ecstatics, from Marie de Moerl in 1384 to Louise Lateau in 1868, together with the various religious epidemics, both in our own and other countries, evidence the stronghold that hallucination possessed over the minds of these unfortunate people, and the very important part played by the mental condition of hysteria.

The consideration of the mental symptoms of hysteria would at first sight seem trivial and lacking in importance, and, unfortunately, this idea has long prevailed, and still holds sway to an undesirable degree. Unquestionably this condition holds a place on the frontiers of lunacy—not nearly so important a place, it is true, as some other mental states, but one which must receive its due consideration. No one who has read Dr. Cole's masterly synthesis of a case of paranoia can fail to see in many hysterical patients the material out of which like affections are constructed. It by no means follows that a case of hysteria must of necessity develop into a case of hysterical mania. In one such case—hysteria, as we accept the term—may be found seeds which, under circumstances most favorable for their growth, may develop one of many forms of insanity. It is not necessary to elaborate this point further. As will be shown, certain hysterical patients show suicidal tendencies, some are inclined to mania, some to a fixed idea or paranoia, while a few, passing through various stages of hypochondria, arrive at last very near melancholia. The classification of the mental states of hysteria is beset by the same difficulties which attend a classification of the different forms of hysteria itself. From the irritable, perverse, unstable intellectual condition of the hysterical girl at or before puberty to the fully developed, violent hysterical mania there are countless steps. Legrand du Saulle presents the mental conditions of hysteria under four heads. In the first degree the hysteria is mild; there has been no profound alteration in the mental faculties; such a condition would be called nervousness rather than hysteria. In the second degree the trouble is more pronounced; the manner of receiving outside impressions, and the reaction that they call out, reveals a vicious equilibration of the faculties, and a very decided alteration in the character. The subject of such impressions no longer enjoys the free use of the will, which, while it may not be greatly impaired, is yet weakened to such an extent that at certain moments and in the face of certain acts it gives way. A step further brings us to the grave forms of hysteria, with irresistible impulses and passing hallucinations, always with marked alteration of the intellectual faculties. The patient is impelled to strange actions, odious and false accusations.

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* Read before the Clinical Society of Maryland, November 16, 1888.

The fourth degree constitutes the true hysterical mania. Of course, such classifications, from the nature of the case, must be very arbitrary, and the simpler they are the better. Probably the best division would be into three stages: First, those slight conditions of hysteria in which the intellectual faculties are not altered, and which are characterized merely by some want of mental co-ordination, by a heightening and want of control over the emotions. As has been said, this state would be called, especially in this country, nervousness. Secondly, a condition of very marked hysteria, in which the intellectual faculties are markedly altered, in which hallucinations and even weak delusions are present, and the will-power shows all degrees of weakness up to the tottering condition which precedes its final overthrow, which overthrow gives us the third and by far the best-marked and most clearly defined condition—hysterical mania.

The first or slight form of mental hysteria is the most difficult to recognize and the hardest to describe, yet the most important, since it demands most imperatively a judicious treatment, which is to prevent the trouble going further. While we find hysteria most fully developed in young girls, it is by no means confined to them, for one sees it in older women, married and single, in boys, and in adult or old men. It would seem (and this is a point which has never been clearly brought out) that we may have quite well-marked mental symptoms of hysteria unaccompanied by any of the various well-known phenomena, such as convulsions, paralyses, anæsthesias, pain, and other like symptoms. In this country especially is one apt to find the purely mental hysterias. In the slight forms the intellectual condition may be characterized by *instability*, *motility*, *capriciousness*. As Sydenham said long ago: "What is most consistent in them is their inconsistency." They are irritable, change rapidly from one state to another, are, to quote Ch. Richet, "like children in whom one may provoke laughter while their cheeks are still wet with tears." There is often present a decided exaltation of intelligence. Such a person may at times be a brilliant conversationalist; versatile, witty, and gracious for a time, some unimportant event, some meaningless remark, may bring on a torrent of tears or provoke a fit of uncontrollable anger. The mental reflexes, so to speak, are all heightened, and they present a striking analogy to the disease lateral sclerosis, in which the lightest tap with the finger will call forth a vigorous knee-jerk. The stimulation which is brought in from without seems to overrun its natural boundaries when it reaches the brain, and excites more centers than normally it should do, and excites them to too high a degree. Especially is this true as regards the emotions. The most unexpected events will produce powerful exhibitions of emotion; nor can we predict which emotion will be called forth. Given a certain stimulus—as, for example, the sudden relation of a piece of bad news—it is impossible to predict whether the hysterical patient will weep or laugh, will sing or break into a torrent of abuse. Most of the events in the every-day life of these individuals take upon themselves a sentimental cast, and questions of the most matter-of-fact nature are referred to this false and silly standard. Their whole intellectual life, like a kaleidoscope, is changed by the slightest movement, and all these changes come with great rapidity. They are incapable of long-continued application, and, as a consequence of this, are apt to be classed by their friends as idlers. The spirit of contradiction is very strong with them, and is a prominent symptom of the condition. They seem to take the greatest delight in denying to-day that which they affirmed yesterday. They are regarded as peevish and ill-natured, and the opposition which they often meet with serves but as fuel to the fire. They will oppose, contradict, and set themselves directly against the wishes of those who are dearest to them. They seem to experience a certain gloomy pleasure in thus torturing themselves by distressing their friends. This characteristic will be noted more fully when the graver form is described. One ever-present trait, acting as a mainspring for many of their actions, is an overweening egotism and a morbid desire for notoriety. In the more advanced forms of the disease this craving impels them to do the most extravagant things, not stopping short, as we shall see, of the most hideous crimes. Intimately connected with this latter characteristic is the well-known habit of simulation, and, as a consequence of this latter, a disregard of the truth.

It is not uncommon to find in these primary states a tendency to hypochondria or a slight tinge of melancholy. All these symptoms go to show a weakening of the inhibitory power of the will. They still have power to resist the impulse to commit acts which are clearly trespasses against morality and decency, while they yield to the slighter, more colorless, less important morbid desires.

Such are the more important features of the earlier stage. The limits of this paper do not permit any elaboration of them. Still it is easy to see that very close scrutiny is needed to determine just where the normal ends and the abnormal begins. Cases presenting such symptoms as have been detailed do not have to be sought for, but are met by the general practitioner in his daily rounds. Such characteristics as vanity, love of notoriety, inconsistency, simulation, and the like, which are exhibited by patients suffering from the slighter forms of hysteria, have led some author to make the very uncomplimentary and ungallant remark that in the first degree of the mental state in hysteria we see in an exaggerated form merely certain well-known feminine traits.

Passing now to the more pronounced forms of hysteria, we find the mental states differing from those of the earlier stages only in degree. The most noticeable thing is that the will power, which in the mild cases was only weakened, is now apparently lost. As Sir James Paget aptly puts it, "They say 'I can not'; it looks like 'I will not,' but it is 'I can not will.'"

The character of these unfortunates becomes entirely changed and the intellectual faculties grow somewhat impaired. There is loss of memory, complete inability to fix the attention upon anything except self, which seems to engross every thought. What in the slighter forms of the disease was merely a desire to attract attention now becomes a passion for notoriety of the most disgusting kind. When some hideous crime has been committed and the perpetrator of it is being sought for, claimants for the honor are always sure to present themselves out of this class, and the police have become quite skillful in making the diagnosis.

Dally relates a case of a young woman who killed her infant, apparently from no other motive than the love of notoriety and a desire to appear before the tribunal. As a consequence of this craving for notoriety is the wonderful simulation and deception of hysterical women. Numerous cases could be mentioned as illustrative of this point. Duponchel relates the case of a young girl who vomited every morning a quantity of urine, much to the astonishment of her medical attendant. On being watched, she was observed to drink her urine in large quantity. Many cases of fasting celebrities have been detected eating in secret. Very often these hysterical women will put foreign substances into the vagina. Vomiting of blood is another very common phenomenon, and patients have been detected abrading the gums until they would bleed in order to swallow the blood and afterward vomit it. Notoriety, attention, sympathy, they must have, and no price is too dear to pay for it. More disagreeable and annoying is the very common habit of making unjust accusations against innocent persons. The most common form of these is the accusation of violation of the person. Cases innumerable of this description might be mentioned, and certain of them convey a very important lesson, for undoubtedly many innocent men—from the time of Urbain Grandier, who was burned on the accusation of the hysterical nuns of St. Ursula, down to some very recent cases—have been made the victims of this most deplorable trait of hysteria. The greatest antipathies may exist toward persons nearest and dearest to them, and the unfortunate person takes the highest pleasure in tormenting all about her. A wife will declare that she no longer loves her husband and will lead him to suppose that she is enamored of some one else, or a mother will punish her children in the most unjust and cruel manner, though she may be quite willing to risk her life for them. Sometimes, but rarely, the sympathy of hysterical persons is enlisted in some good cause, and they will devote themselves to it most unsparingly. Side by side with a most despicable action will be a splendid outburst of generosity. To quote Moreau, "they are by turns gentle and passionate, kind and cruel, impressionable to a degree, rarely masters of their movements, incapable of resisting impulses of a kind most opposite to their nature, they seem to present a defect of equilibrium between the superior and inferior faculties, between the will and the conscience on the one hand, and passion, instinct, desire, on the other." There is often seen to exist a sort of automatism, or, as Esquirol calls it, a catalepsy of the intellect. They are dependent upon and solely influenced by external objects and external stimulation. By contrast to the ever-changing mental states, we sometimes find veritable fixed ideas. Such patients will refuse food because they imagine they have some digestive trouble, or will absolutely refrain from walking for fear of causing themselves pain. Not infrequently these patients fall into a hypochondriacal state, but it is not a true hypochondriasis. Their sole end is to attract attention and sympathy. A very interesting chapter might be written on the subject of attempted suicides of hysterical persons. The striking feature about all such attempts is the fact that the exact time, place, and manner of the occurrence is always insisted upon by the hysterical patient. Often they will pretend to conceal their project, but always in some way, often most adroitly, it will be made known. A patient in the Salpêtrière announced that she was going to throw herself from the heights of Grenelle, and of course when the time arrived some one was there to prevent her. Ogston reports a case of a young married woman who pretended to have taken arsenic, and some of the powder was found in the bottom of a glass, but no severe symptoms followed. Another amusing case was that of a woman who asked for an ounce of laudanum at a drug-store, and the druggist, suspecting her motives, gave her tincture of rhubarb instead, which produced a deep sleep from which it was difficult to arouse her. It was ascertained, by the use of the stomach-pump, that she had taken no laudanum. Very often one sees cases like the one reported by Hamilton, where a lady in a strange hotel telegraphed to her husband that she had poisoned herself, and after having aroused great anxiety, which she very much enjoyed, told the doctor that she had taken nothing. All this is very different from the true suicidal mania, though occasionally the hysteric will actually take her own life. In melancholia the patient makes all necessary preparation in secret, and far from any indiscreet scrutiny; the maniac takes the fatal step driven by the impulse of the moment; the victim of paranoia or monomania kills himself to escape from some imaginary danger, or as the result of the insane desire to commit the act. In the case of these latter the end aimed at is always self-destruction; with the hysteric it is a desire to create a sensation or to arouse sympathy. Very amusing is the case of the girl who with great parade threw herself into the Seine, and then swam ashore. Self-mutilation is very frequently practiced by persons affected with hysteria, but, like their attempts at suicide, they rarely do themselves great injury. They desire to be restrained from doing what they have no idea of doing. Hammond relates the case of a lady who terrified her friends and raised a great commotion by declaring that she was going to jump from the window. When the doctor came into the room she was strapped to the bed, surrounded by her excited relatives. He at once had her freed, when she walked to the window, looked out for a moment, roundly abused the doctor, and said no more about suicide. The question as to what part sexual passion plays in the hysterical condition is as old as the disease itself, as shown by the very name of the condition, and by the advice that Hippocrates gives to hysterical girls: *Ego impero virgines his morbis affectas quam citissime cum viro jungi.*

In the epidemics of the middle ages, and even those of later times, sexual excitement played a conspicuous part, joined as it often is to religious excitement. Generally speaking, one may say that the sexual instinct plays a part no more important in hysteria than in many other conditions. It is very necessary to eliminate these cases of erotomania—such, for example, as the many revolting instances mentioned by Tardieu—from the category of hysteria, since it is merely a complication. It is the testimony of all writers that the sexual system is not more excited than the other systems, and indeed one will often find that the hysterical woman has lost sexual desire. The many affectations which they assume are merely to attract attention or admiration, and not usually from baser motives. In these graver forms of hysteria the condition of the patient is truly deplorable. Hallucinations, at one time terrifying, at another disgusting, crowd in upon her and render her life miserable. The highest abstract virtues—truth, honesty, morality—in general are continually changing places with their opposites. Fixed ideas strengthen almost into insane delusions. The will-power is in almost complete abeyance, and the poor creature is the sport of every passing impulse. Of course these conditions are never long the same. One day perfectly natural, the next day may find the hysteric in a most distressing frame of mind, so that this very uncertainty makes her own life, and especially the lives of those about her, wretched. These graver states of hysteria present a mental state bordering, as has been said, closely on insanity, lying along the frontiers in the debatable ground. Space does not permit more than a very brief outline of hysterical insanity. It may occur without any apparent cause, or it may seemingly be due to the influence of grief, some powerful emotion, menstrual trouble, pregnancy, extensive loss of blood, or acute disease. It is certainly not true, as has been so often stated, that sexual impressions, either continence or excesses, exert any decided determining influence. The delirium is very violent, resembling in many of its features ordinary acute mania. The patient is very much excited, running from place to place, talking loudly, gesticulating, singing, throwing herself upon the ground, assuming various expressive attitudes. They are terrified, disgusted, or amused by turns at the various hallucinations which engage their attention. There is often a striking similarity between this condition and alcoholic insanity. There is frequently present a destructive impulse which may lead them to suicide or homicide; generally it is confined to the destruction of objects about them, as the furniture of the room. Moreau, who is probably the best authority on this subject, says: "The shipwreck of the intellectual faculties (in hysterical delirium) is complete only in exceptional and essentially transitory cases. When one addresses these patients, seemingly given up to extravagancies and eccentricities, and betraying by every word their disordered mental condition, so that they seem completely subjugated by hallucinations of every kind, the first question one puts to them seems in a manner to bring them to their senses spontaneously — they recognize that they do not know what they are saying, and that there is nothing real in their visions; but as soon as one stops speaking they drop back into the same mental state from which they were for a moment withdrawn."

Some authors, among whom may be mentioned Auguste Voisin, have given a place to functional uterine troubles as a factor in the production of hysterical insanity, and have pointed to the analogy between certain forms of this affection and the mental condition sometimes seen at the climacteric, during pregnancy, and occasionally during painful menstrual periods. While the moral sense is completely upset and the judgment entirely at fault during the paroxysms, there come periods of lucidity when the patient presents very few traces of mental unsoundness, and this accounts for the skill with which persons suffering from hysterical mania will frequently defend themselves before a court of inquiry.

Ch. Richet has pointed out the analogy which exists between hysterical delirium and the hypnotic state. The distinction between what is sometimes spoken of as moral insanity and hysterical insanity is very hard to draw, and should not be insisted on. While one may not infrequently see revolting examples of sexual perversion in these cases, hysterical mania must not be confounded with nymphomania. In some cases hysterical mania may exist for years without very greatly impairing the intellectual faculties, as shown in periods of lucidity, though very often the patient is rapidly reduced to a state of complete bestiality.

Such, very briefly and imperfectly, are the principal features which characterize the various mental states of hysteria. From a diagnostic point of view, we generally have the other symptoms of hysteria—the well-known physical, objective symptoms—to aid us, though, as has been said, a case will sometimes present itself in which we can detect only the mental symptoms, and then it becomes very important to have a clear idea of them. The more humane and scientific spirit of our age has fortunately removed from the much-to-be-pitied hysterical girl the stigma of disgrace which formerly rested upon her, and shown that she is not, what was once supposed, a malicious and ill-natured person, but that she is the subject of a well-recognized and clearly defined disease.

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## ANTHRAX MALIGNA.*

By FRANCIS W. MURRAY, M. D.,
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At the present day our knowledge of infectious and contagious diseases—particularly as regards their causes and means of prevention—is, in great measure, due to the advances made in the past ten years in bacterio-pathology. Not the least important in this class of diseases are those which may be communicated from animals to man, and, although few in number, they include some of the most dangerous maladies to which the human race is exposed. One needs only to glance over the vast amount of literature written on the subject to appreciate the time and attention devoted to these special forms of disease. In addition to the discovery of new varieties, the results of the systematic study and investigation have been to add to our knowledge of their ætiology and pathology, to strengthen our powers of diagnosis, and to teach us that prophylactic measures are of the utmost importance. Apart from the fact that prophylaxis is the best means of treatment, our progress from a therapeutic standpoint has not equaled the advances made in ætiology and diagnosis. Consequently, in some of these affections, although understanding their causes and able to make a correct diagnosis, we are powerless to avert their progress and to prevent a fatal termination. In malignant pustule, or, more properly speaking, anthrax maligna, the conditions are different, as here success in treatment depends mainly on the power to make an early and correct diagnosis. Of the contagious diseases among animals, anthrax has been the longest known. From the descriptions in ancient history of the great plagues affecting indiscriminately man and beast, it is fair to presume that they were of the nature of anthrax. In man, the disease has long been known. Over a hundred years ago Fournier first traced communicated anthrax of man to the eating of diseased animals' flesh and to the handling of their wool. The discovery by Pollender (1849) of the presence of fine rod-like bodies in the blood of animals suffering from anthrax was the beginning of a new era in the study of the disease. Davaine, in 1863, was the first to maintain that the contagion lay in these bodies, which he called bacteridia, but at the present day they are known as the bacilli anthracis. Without mentioning the arguments for and against this assertion of Davaine's, the careful investigations of the past few years prove that anthrax in man is due to the presence in the blood or tissues, or both, of the specific spherical and linear bacteria, known as micrococcus and bacillus anthracis. The spontaneous development of the disease, apart from the presence of the bacilli in animals or soil, is, therefore, impossible. The great tenacity of the poison, and its capability of being transported long distances, are well known, and will tend to explain many of the cases of so-called spontaneous origin. The bacilli are destroyed at a temperature of 145° F., but the spores withstand the temperature of boiling from five to ten minutes, while an exposure to a temperature as low as 1° F. simply renders them dormant, but does not destroy them. In man, the principal modes of infection are direct and indirect. The direct include the handling of sick animals, their carcasses, hides, wool, hair, bristles, intestines, and bone-dust. Physicians and nurses have been inoculated by their patients, and examples of infection by eating cheese, milk, or cream are recorded. Among the indirect are inoculation through the bites of insects and by water containing the poison. The direct inoculations are the most frequent, and occur mostly among farmers, butchers, tanners, workers in hides, hoofs, hair, bristles, and catgut, also in felt-hat works and paper making. In many cases, however, it is clearly impossible to establish the source of infection. The disease almost always attacks some exposed part of the body, the upper extremity and the face being the favorite situations, as among 1,000 cases collected by Koch, 370 were of the upper extremity, 490 of the head and face, and only 26 of the lower extremity. In man there are three varieties—the primary anthrax carbuncle (commonly known as malignant pustule), the malignant anthrax œdema, and internal anthrax; but I shall confine myself to the consideration of the first-named variety. Symptoms appear after a period of incubation varying from a few hours to twelve days. Where the poison has entered the skin there is felt a burning or itching sensation, and inspection reveals a small red spot with a dark center. This spot gradually enlarges into a small papule, and in a few hours there appears on its summit a small vesicle containing reddish-brown serum. On the rupture of the vesicle, the itching ceases and the skin beneath is seen to be of a brown or black color, and a local eschar forms. The surrounding skin forms an elevated livid red area, on which, in a few hours, appear vesicles similar to the first, and which pass through the same stages, leaving beneath a gangrenous surface. The eschar is now depressed, black, has a feeling like leather, is perfectly dry, and is not painful on pressure. The parts beneath swell and form a hard, well-defined lump, which can be raised from the tissues; occasionally the swelling is absent. The swelling of the skin increases, the color changes from red to a dark blue, new vesicles appear, the eschar increases through their rupture, and the disease keeps steadily extending. The affected part becomes the center of an ill-defined, œdematous swelling, and the œdema may invade the entire arm, face, or neck. A striking symptom is the little pain these swellings cause, and the occurrence of pain in them is a favorable sign of commencing reaction. When the disease is on the trunk or extremities, inflamed lymphatics are sometimes seen extending to the neighboring glands. Such is the usual but not invariable course of primary anthrax carbuncle: first the red spot, then the vesicle, then the solid circumscribed swelling beneath, surrounded by a diffused œdema, the dry, black slough, and the secondary formation of vesicles. The disease lasts on an average from six to ten days, and for the first forty-eight to sixty hours it is local, and afterward the system is infected. The constitutional symptoms in favorable cases are headache, slight fever, and signs of general depression; in fatal cases are observed the symptoms of septicæmia, often followed by collapse. The occurrence of anthrax in this city is by no means frequent, judging from the small number of cases reported in the journals, and also from the few deaths recorded by the Health Department (twelve cases of death in the last ten years). Even if the number of unreported case were known, I think it would still be found that the disease is very uncommon. In view of its infrequency, I desire to report the histories of four cases which have come under my observation.

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* Read before the New York Surgical Society, November 14, 1888.

Case I.—James B., fifty years of age, porter in a restaurant. On the morning of November 20, 1883, he felt an intense itching on the back of the left hand, and, on examination, found a small red spot like an insect's bite. The itching continued at intervals during the day, and by evening the red spot was slightly swollen. The following morning he noticed a "blister," as he expressed it, over the red spot; also more swelling, but, the itching having ceased, he paid no more attention to the hand until evening, when he found the blister broken and a black spot in its place. The swelling had increased during the day, and had now extended to the fingers, which were slightly stiff. No pain anywhere. On November 22d he applied at the out-door department of the Chambers Street Hospital for treatment, and gave the above history. On the dorsum of the left hand was a swelling about an inch and a half in diameter, in the center of which was a small black slough. The slough was rather depressed, perfectly dry, and firmly adherent to the surrounding integument. The skin around the slough was swollen, of a dark-red color, which gradually faded away, and several vesicles containing dark-colored serum were seen. Beneath the eschar and vesicles could be felt a small, hard, and well-defined induration, and beyond the tissues were swollen and œdematous. No pain on pressure at any point, and no local increase of temperature. Patient felt perfectly well, and complained merely of stiffness of the fingers, which were somewhat swollen. No diagnosis was made, and carbolized dressing applied to hand. During the following two days the swelling increased steadily, the eschar grew larger, and new vesicles appeared, but no pain was complained of by the patient. As he felt perfectly well, he would not allow any operative measures for the removal of the trouble. From fear of an operation, he remained away for two days, and was next seen on November 26th. By this time the entire hand, all the fingers, and the lower part of the forearm were œdematous. Inflamed lymphatics were seen running up to the axillary glands, which were tender on pressure. The man was anxious and depressed, had no appetite, was constipated, his tongue coated, temperature 100° F.; pulse increased in frequency. The eschar, with about a fourth of an inch of surrounding tissues, was excised, the wound cauterized and filled with corrosive-sublimate powder, and an antiseptic dressing applied over the hand and wrist. Constitutional treatment appropriate to the case was ordered. The eschar measured an inch long, three fourths of an inch broad, and was quite thick. No pus seen anywhere. The following day his general condition was improved, but he complained of great pain in the hand; the œdema and swelling were somewhat less. In a day or two marked improvement in local appearances was observed. The slough came away on December 6th, leaving a healthy granulating surface, which rapidly healed.

Case II.—James D., twenty years of age, longshoreman, was annoyed by persistent itching on the right side of forehead on the evening of November 22, 1883, and, on examination, found nothing but a small red spot. The next morning a small vesicle appeared on the spot, there was some swelling, and the itching had ceased. During the day the vesicle was broken, and the swelling increased, but the man continued at his work, as he felt very well. In the evening a black spot was seen in the center of the swelling, which was slightly larger. The man was at work the following day, as, beyond a slight headache, he felt well, and he noticed that there were a few "water-blisters" on the swelling. In the evening he applied for treatment at the Chambers Street Hospital, being alarmed from the swelling having extended to his upper eyelids. The following morning (November 29th) I saw him for the first time. He was strong and well developed, and said he had never been sick in his life. No evidences of syphilis. Over right frontal eminence was a circular swelling about two inches in diameter, indurated at its center and œdematous beyond, the œdema gradually disappearing. In the center of the swelling was a small black eschar, slightly depressed, of a leathery feeling, and firmly adherent to the skin. The skin was of a deep-red color around the slough, and in places was devoid of epidermis, due to rupture of the vesicle. Both upper eyelids and bridge of nose œdematous, right cheek swollen. Slight tenderness on pressure over upper part of the right parotid gland. Incision through eschar revealed entire absence of pus. Excision of eschar, together with small circle of surrounding integument. Wound cauterized and filled with powdered corrosive sublimate, antiseptic dressing. Patient had headache, loss of appetite, coated tongue, but pulse and temperature were normal. Several hours afterward he had a severe headache and was nauseated. On following day the general condition was improved, and from this time his history is that of rapid recovery.

Case III.—For the history of the early stages of this case I am indebted to Dr. Armstrong, of this city.

J. L., sixty years of age, clerk, called at his office on Thursday, August 16, 1888, to consult him about a pimple on his chin. He said he had had many before, but this one did not disappear like the others, having been there three days. On examination, there was seen, at a short distance below the middle of the lower lip, an indurated swelling, half an inch in diameter, and with a dark-red spot in its center. No pain in it, and patient perfectly well. Poultices were ordered, to be followed by arnica plaster in the morning. Patient was seen on Friday evening, and the swelling had increased rapidly, and a small black eschar was seen, but no vesicles. Lotion of carbolic acid ordered, and patient was advised to remain at home. On Saturday the swelling involved the lower part of the face, and extended far down on the neck. No pain complained of, and patient said he felt well; temperature 101°, pulse 98. On Sunday, temperature 101°, pulse 100. Patient was unable to swallow solid food, and spoke with considerable difficulty. On Monday, August 20th, I saw him in consultation with Dr. Armstrong. The lower part of the neck was enormously swollen, the œdema and swelling commencing at the lower lip and extending to the clavicle on each side. Just below the lower lip was a small brownish-black eschar, surrounded by an elevated bluish-red zone of integument, on which were two or three vesicles. Beneath was felt a well-defined indurated mass, and pressure on it caused no pain. No signs of pus. With some difficulty the mouth was opened, and an œdematous condition of the tissues at base of tongue was seen. Tongue brown and dry, dyspnœa well marked, the patient unable to articulate or swallow. Temperature 102°, pulse 120 and weak. Although there was no hope for the man, the slough was excised, the adjacent skin scarified, and deep incisions made into the tissues of the neck. Antiseptic dressing over neck and chin. No improvement followed, and in a few hours the patient died in collapse.

Case IV.—J. K., twenty-five years of age, groom, on the afternoon of September 28, 1888, after taking off his gloves, felt an itching on back of left index finger, and noticed small red spot with a black center. On retiring that evening, he noticed that the red spot was elevated, and the itching continued. On the following morning the finger was swollen, and a small vesicle was noticed. During the day the swelling extended to the dorsum of the hand, and by evening all the fingers were swollen and stiff. There was no pain, and the man felt perfectly well. On the 14th I saw him, and found an œdematous swelling involving the entire hand, all the fingers, and running up the forearm. On the dorsum of the left index finger, over the center of the proximal phalanx, was a brownish-black slough, about the size of a good-sized tack. The slough was depressed and surrounded by a dark-blue areola, on which were two or three small, dark-blue vesicles. No pain on pressure anywhere, and, beyond the stiffness of the fingers, there was no complaint on the part of the patient. Eschar and surrounding skin excised, powdered corrosive sublimate dusted over the wound, and a 1-to-2,000 bichloride dressing applied over hand. The history of the trouble after this was uneventful, and he recovered rapidly.

In Case II only could the source of infection be traced in a satisfactory manner. This man had been unloading hides from a ship from South America, and had carried them on his head. Case I was accustomed to handle all the raw meat which was used where he was employed, and possibly he may thus have been inoculated. In the other two cases all attempts to trace the source of the poison were fruitless. On inquiry as to the prevalence during the past summer of the disease in animals in this city, official information was received that since 1886 no cases of true anthrax had been seen, but that a number of cases of malignant carbuncle (so-called splenic fever of Texas) had occurred. The differentiation of these two diseases in animals is very difficult at times, and there is fair reason to think that true anthrax has occurred here during the summer. In Cases I and II the tissues removed were examined for bacilli with negative results, and this may be accounted for by the fact that the specimens were preserved by mistake in a strong bichloride solution. No examinations for bacilli were made in the other cases. The diagnosis was made entirely from the local symptoms, which were those that characterize this variety of disease. There is one symptom which may be considered almost pathognomonic of external anthrax — viz., *the entire absence of pus*—and the recognition of the smallest quantity in a doubtful case shows the disease at once to be of some other nature than anthrax. The name "malignant pustule" is particularly inappropriate, as it gives a false idea of the disease, implying suppuration, and should be discarded. Prognosis in external anthrax is dependent on certain conditions. In anthrax districts the mortality is from 5 to 9 per cent.; outside of these districts the mortality is as high as 40 to 50 per cent. The difference is easily explained, as in districts where the disease frequently occurs medical aid is sought early, and the physicians, from their experience, are able to make a rapid and correct diagnosis, and energetic treatment is carried out while the disease is local In external anthrax with constitutional symptoms the prognosis is grave, but authenticated cases are on record of rerecovery after general symptoms were well marked. While the disease is still local the treatment is purely surgical, and it should be carried out in a *thoroughly antiseptic manner.* The eschar, together with a small zone of the adjacent tissue, should be excised, the wound cauterized or filled with powdered corrosive sublimate, or both, then 1-to-2,000 bichloride dressing over the affected part. Bichloride of mercury is the best antiseptic to use, as, from recent experiments, it has been shown to be superior to carbolic acid, iodine, salicylic acid, and other agents in destroying more rapidly the germs of anthrax. The danger of poisoning by filling the wound with bichloride powder is slight, as, in most cases, it turns into calomel in a very short time. Slessarewskji in forty-four cases cut away the surface of the pustule and covered the raw surface with bichloride powder, and poisoning occurred in none of the cases. Where constitutional symptoms have set in, general treatment is called for in addition, and along with the tonics and stimulants I would recommend a thirtieth of a grain of corrosive sublimate three or four times a day. Finally, after excising a pustule, one must carefully disinfect the instruments, the hands—in fact, everything which has come in contact with the diseased tissues.

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## PHARYNGEAL MYCOSIS.[*]

By S. O. VANDERPOEL, M. D.

Although pharyngeal mycosis has been so well known since 1873, when Frankel's article appeared, but few contributions have of late been made to the literature of the subject, especially in the English language. It is not of infrequent occurrence, but frequently passes unnoticed, either from there being no subjective symptoms to call the attention of the patient to it, or because often it is confounded with some other affection. *Oidium albicans* is probably the most common form of vegetable parasite which occurs in the mouth. Less frequent are *nigrities linguæ*, *mycosis sarcinica*, *aspergillus mycosis*, and *mycosis leptothrix.*

Under the term *nigrities linguæ*, or black tongue, two different affections have been described—one an epidemic erysipelatous disorder, and the other a peculiar black pigmentation due to parasitic disease, seated upon and around the hypertrophied filiform papillæ. The affection appears to be due to some fault of nutrition, having been seen mostly in dyspeptics and hypochondriacs. It is characterized by a grayish-black or fully black discoloration of the upper surface of the tongue which gives it the appearance of the tongue of a parrot or sheep. The filiform papillæ are enormously elongated, so as to closely resemble hairs, lying about, as described by Dessois, in a confusion like that of a field of wheat thrown down by the wind. The cryptogams are first developed at the base of the papillæ and there give rise to an irritation and the growth of a muff-like envelope about the papillæ. The spores at the same time become insinuated between the most superficial epithelial cells of the envelope of the papillæ and dislocate them, so that they maintain their position around the papillæ only by means of the intervening parasitic masses. The latter soon become detached from the papillæ and carry away with them the epithelial cells, thus leaving the papillæ nearly bare. The discoloration of the tongue begins in its central portion and spreads, but later disappears by desquamation as described. The tongue is dry while the process is at its height. It tends to recur. In one highly nervous lithæmic patient who came under my care the affection almost disappeared when the lithæmic symptoms were strongly marked. When, however, they abated, the patch of coal-black fur grew in extent so as to occupy all but the tip and margin of the tongue.

The *mycosis sarcinica*, whose products consist of sarcina, was first described by Virchow. The *aspergillus mycosis* is seldom seen in the throat, though not infrequently in the ear. Schubert has written a most instructive article on this form of mycosis.

The last variety, *mycosis leptothrix*, occurs in two forms, diffuse and circumscribed. In the diffuse form the entire surface of the tongue is coated with a shiny, milk-white mass, which is frequently of sufficient density to obscure from view the filiform and fungiform papillæ. However, even when, as occasionally happens, both upper and under surfaces are covered, there is no interference with the general health. The movements of the tongue and the sense of taste are not lost. In the circumscribed form, white glistening points appear, much resembling those seen in follicular tonsillitis, except that the mucous membrane about them is not congested by any inflammatory action and preserves its normal pink hue. According to Herring, the tonsils, their pillars, the pharyngeal wall, and the base of the tongue are the parts liable to be invaded. Glistening white or yellowish-gray spots appear, usually hard. They are arranged in groups or singly and form little excrescences on a normal mucous membrane. If on the base of the tongue, they take their origin from the circumvallate papillæ and follicular glands, and go to form filaments or tufts. They adhere very firmly to the surrounding parts and rapidly reappear if removed by a forceps. The patient sometimes has a sensation of a foreign body in his throat and a harsh rasping feeling much of the time. During sleep the throat seems to the patient to become very dry and stiff. There is a hacking cough with mucous expectoration. The efforts to clear the throat in one case under my notice often produced vomiting. In some cases there is no subjective sensation produced whatever. The only reliable measure for treating these parasitic growths is the galvano-cautery knife, repeatedly applied, and plunged deeply into the mucous membrane so as to reach the base of the growth. I have not obtained any results from the use of the bichloride, or of carbolic or acetic acids; and only partial success from applications of chromic acid fused on a stick.

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[*] Abstract of a paper read before the Section in Laryngology and Rhinology of the New York Academy of Medicine, November 27, 1888.

The microscopical examination of specimens of these growths obtained from three cases which have been under my care, in each instance showed large numbers of basement epithelial cells surrounded by and mingled with different kinds of fungoid spores. These spores were unequally marked off into links, with numerous side branches and budding ends separated from the main stems by indentations or partition walls. The main trunks were of various lengths, some straight like rods, while others again terminated in curled hair-like filaments. They were colorless, but had sharp dark borders, the centers being filled with granular matter. The ends of some of the spores were rounded, frequently ending in club-shaped swellings, or were budding with bladder-shaped formations.

Besides these spores there were round or oval, highly refractive bodies with dark borders, arranged in colonies or placed separately between the branches. The whole went to make up a network-like formation, composed of spores and refractive granules. With methyl-blue or gentian-violet, beautiful preparations can be produced which bring out the rods and threads in a most distinct manner, with alternately colored and uncolored portions on the stems. It is believed by some that the colored portions are not spores, as many consider them, but that they consist of amyloid material, while the uncolored portions are separating partitions.

Mycosis has been seen more frequently in women than in men, and the left tonsil is more often the affected one. The age of the greatest susceptibility is between twenty-eight and thirty-five. A characteristic feature of this circumscribed variety is that, although it quickly redevelops (often in twenty-four hours) in the same spot from which it has been removed by instrumentation, its extension to other points in the neighborhood is comparatively slow. In other words, new foci of disease develop sluggishly, but when once established their tenacity of life is great, and they require the most radical methods to destroy them.

To avoid confounding this affection with diphtheria, it is only necessary to remember the entire absence of any febrile disturbance, the discrete exudation, the absence of inflammation in surrounding tissues, and its so often appearing first on the base of the tongue. From follicular amygdalitis it is distinguished by the same lack of fever and local inflammation, and by the difficulty in removing the exudate.

The mycosis fungus is, however, much more readily confounded with the concretions so frequent in chronic affections of the tonsils, which in recent cases are soft, white masses, but later become hard and chalk-like, and either discharge themselves or go on to the formation of abscesses.

According to Wagner, they contain phosphate and carbonate of calcium, a little iron, soda, and potassa, and, when soft, a considerable quantity of water and mucus. When the lacunæ are filled by a gray, semi-fluid or mortar-like matter, we have quite another condition presenting. The microscope shows that this matter contains epithelium, cholesterin, pus-corpuscles, bacteria, mold fungi, and chalk globules. These are the bodies to which Gruening called attention in the "Archives of Laryngology" for 1882. He found fifty cases in three months, and among them were seven in which the disease had extended over on to the pharynx. Considering that leptothrix is found in every mouth, this statement is not surprising. Every observer sees numbers of such cases. They are generally considered without significance, they have nothing to do with pharyngeal mycosis, and are to be sharply distinguished from it. They are either hard from the presence of chalk when touched by a probe, or, if soft, are easily expressed and do not soon recur. The ætiology of the different forms of mycosis is still uncertain.

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# AN EXPERIMENTAL STUDY OF FIXATION AND TRACTION IN THE TREATMENT OF HIP DISEASE,

*WITH THE DESCRIPTION OF A SPLINT.*

By ROBERT W. LOVETT, M. D.,
BOSTON.

It is virtually agreed among American orthopædic surgeons that the best results in the treatment of hip disease are obtained by the continued use of the long traction-splint described by Davis, Taylor, Sayre, and others. Englishmen, however, do not take the same view, and their opinion is expressed by Mr. Marsh, who says, in speaking of the

American splints: "These splints, however, after having been fully tried, have been very generally discarded by English surgeons on the grounds that not only is it impossible to maintain extension (that is, to prevent intra-articular pressure) with them, but that they do not secure adequate fixation to the joint." *

On the American side the opinion has been freely expressed that the American splint furnishes fixation to the joint by virtue of the traction exerted.† In any event, the surgeon using the splint should surely know whether or not he is using a fixation-splint, a question which seems to be still an open one for discussion, and the following simple experiments were made to determine how much fixation is furnished by the ordinary Taylor hip-splint when walking is attempted:

The problem was to register in some way the motion between the femur and the pelvis, if any such motion took place, when the patient walked wearing a Taylor hip-splint, and for this purpose the shaft of the splint was extended upward by an adjustable appliance two or three inches and terminated in a clamp carrying a pencil at right angles to the skin which touched the skin covering the ilium just below its crest. It was evident that if the leg and the pelvis moved as one, if there was no motion at the hip joint, the pencil would record on the skin a dot only. If, however, motion took place between the leg and the pelvis in the slightest degree, that motion would be registered as a line on the skin over the pelvis by the pencil attached to the splint, indicating the arc of motion at the hip joint that the leg had described in walking.

A Taylor hip-splint of the ordinary pattern with one perineal strap was used in these experiments. This registering appliance was first fitted to the hip-splint of a boy thirteen years old who had ankylosis of the left hip joint, the result of former hip disease. In two experiments the pencil recorded only a dot when the boy walked about freely and sat down and got up again, showing well enough that when there was no motion at the hip joint the register on the skin gave no arc, and that incidental errors were of little amount, such as might arise from a rotary movement of the splint around the leg, caused by slipping of the perineal band over the tuberosity of the ischium.

A splint fitted with the register was then applied to a boy, ten years old, whose hip joints were perfectly normal, and the traction exerted was measured by two spring balances inserted in the plaster extension, one on each side. A traction of three pounds and a half was then exerted by means of the ratchet extension, and the boy was made to walk freely about. It was found, in three experiments made under these conditions, that the register on the skin showed that the hip joint had moved through an arc of 35° in the simple act of walking. In sitting down and getting up again, about the same amount of motion was caused at the hip joint. These experiments were confirmed by a similar one upon an older boy with a normal hip joint where 40° of motion were found to take place.

In the case where 35° of motion took place with three pounds and a half, the traction was increased up to eight pounds, when it became almost unbearable, and the boy could only be induced to endure it for a very few minutes. When walking was attempted with this amount of traction (which was much more than any patient could endure continuously), the hip joint described an arc of 15°. This was determined by three experiments made on the same boy.

With regard, then, to a Taylor hip-splint with one perineal band, these experiments show plainly enough that it furnishes very incomplete fixation to a healthy hip joint with any endurable degree of traction, and consequently to a diseased joint it must furnish equally poor fixation.

An experiment upon the same boy was then made with the original form of Taylor splint as now used at the New York Orthopædic Hospital and Dispensary, which has a rigid waist-band encircling the pelvis and two perineal straps instead of one; and when walking was attempted with that, very much better fixation was obtained, although it still lacked a very little of being complete. But it was not by virtue of the traction exerted that the hip joint was held so firmly, because just as much fixation was obtained when no traction at all was exerted as when the leg was pulled upon by a force of four or five pounds. The fixation at the joint seemed to be due to the rigid band holding the pelvis and the long leg-shaft holding the leg.

So far, then, as these experiments go, the practical points shown are: That traction in itself furnishes very incomplete fixation and can not be regarded as in itself a means of *fixing* a diseased hip joint in the treatment of hip disease; and that a Taylor hip-splint with a rigid pelvic band and two perineal straps furnishes much more complete fixation to the joint than the newer form of the splint with only one perineal strap.

So far I have meant to speak of traction only as a means of fixation, not as a therapeutic measure. How it accomplishes its wonderful results in hip disease it would be hard to say. At any rate, it does not seem likely that it separates the surfaces of the joint in the early stages of hip disease. Experiments with a view to determining this question, made upon the cadaver and upon patients under ether, do not reproduce the clinical conditions, because muscular spasm, the most important factor of all, is left out of account. Consequently, conclusions should be drawn very carefully from these experiments as to what traction mechanically accomplishes in acute hip disease. Koenig and Paschen found slight separation when experimenting upon the cadaver and using traction of eight pounds and more, but Morosoff, on the other hand, was unable to produce separation of the joint surfaces in some experiments that he made with less than sixty pounds. Lannelongue,* by frozen sections, demonstrated a partial separation of the joint surfaces in a case of well-marked hip disease with an extension of ten pounds.

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* Howard Marsh, "Diseases of Joints," Lea Brothers, 1886, p. 407.

† "Medical Record," Sept. 1, 1867, p. 290. Bauer's "Lectures on Orth. Surg.," N. Y., 1868, 2d ed., p. 282. "Medical Record," Jan. 12, 1878, p. 27. "N. Y. Medical Gazette," April 17, 1880, p. 243. "N. Y. Medical Journal," July, 1882, p. 17. "Medical Record," June 26, 1880, p. 738.

* Lannelongue, quoting Koenig, etc., "Coxotuberculose," Paris, 1886.

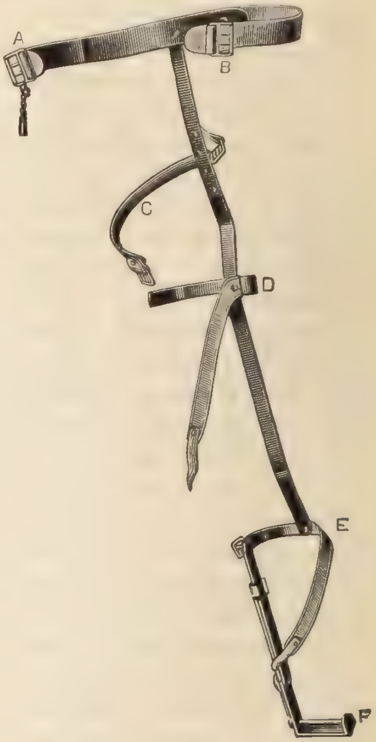
But when muscular spasm is present the conditions are changed; the muscles are all set in tetanic contraction, pulling the head of the femur against the acetabulum. A rough attempt to estimate their force was made in the case of the ten-year-old boy upon whom the hip-splint experiments were made. With the anterior thigh muscles, in flexing the thigh, he could exert twenty-four pounds' pressure, as registered by a spring balance; with the posterior thigh muscles he could exert a force of twelve pounds—a total force of thirty-six pounds exerted voluntarily by all the thigh muscles. If these muscles were all set in tetanic rigidity to pull the head of the femur against the acetabulum, they would work at better advantage than in the experiment, and it does not seem likely that they would exert much less than thirty-six pounds' pressure. To antagonize this we have a traction force at the most of eight pounds exerted upon the loosely movable skin. If any weight at all can be attached to the experiment described, it does not seem likely that the traction-splint produces separation of the joint surfaces.

No attempt is made to underrate the wonderful value of traction as a means of treatment in hip disease; simply to point out that traction alone does not serve to produce fixation and probably does not separate the joint surfaces, and to advocate the view that, in connection with as complex fixation as possible, it finds its best application in the treatment of hip disease.

Leaving aside altogether the question of whether fixation (as complete as can be obtained) is desirable in all cases of hip disease in addition to traction, certain cases must occur in the experience of every surgeon where complete rest to the joint is imperative. To put such children to bed for any length of time is always unfortunate. Dealing, as we are in most cases, with a tuberculous process, the maintenance of a good general condition is of the utmost importance, and confinement to bed shuts off the exercise, cuts down the appetite, and in general seems to handicap the patient. Knowing that certain hospital cases under my own observation were growing worse while wearing a Taylor traction-splint with one perineal strap, an attempt was made to find some apparatus which would practically eliminate motion at the hip joint at the same time that it exerted traction, and this splint was adopted (see figure), which is merely a modified combination of the English Thomas splint with the American Taylor splint.

In the last few months it has been used in a large number of cases of hip disease coming to the Out-patient Department of the Children's Hospital, and with very satisfactory results. It is not presented as a splint for the routine treatment of hip disease, but as a means of furnishing fixation and traction in bad cases while the patient goes about on crutches. It possesses these advantages: It necessitates the use of crutches, it makes it impossible for the patient to climb fences and knock about in the way that so many children do with such disastrous results, and it makes it possible for a child to go comfortably about, even with a joint exquisitely sensitive to every jar. It is clumsy, and for a while patients are much bothered about sitting down, but they learn to sit sidewise, and cease to mind the splint.

It possesses one further advantage in the treatment of deformity: it can be bent to fit a limb however much it is flexed, and can be gradually straightened as the muscular spasm relaxes without necessitating confinement to bed, and in a similar way adduction and abduction can be corrected by bending the splint laterally to fit the limb in its malposition, and gradually bringing it back to a straight line as the spasm relaxes under the influence of traction exerted in the line of the deformity.



The splint shown in the diagram is for the right leg. The chest-piece, A B, is made to open by a hinge at the back, and, when closed in place, is buckled across the chest. C is an arm for the perineal band, running in the same place as the perineal arm of the Taylor splint. D and E are the regulation thigh and calf pieces of the original Thomas splint. From the outer end of E the foot-piece runs down below the foot, and ends in the ratchet and key arrangement for producing extension in use in the Taylor splints. The splint is applied, the perineal band adjusted, and the traction-bar tightened last of all.

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# ARE THERE OTHER SPEECH CENTERS BESIDES THE ONE OF BROCA?

By Z. H. EVANS, M. D.,
BAY CITY, MICH.

I was called April 21, 1888, to see Mr. K., aged twenty-four, a contractor by occupation. Upon my arrival at the house, I learned from the members of the family that two weeks previous to my visit, while engaged in removing a swing bridge, he had fallen about thirty feet, striking on the left side of his head and shoulder, rendering him insensible. In this condition he was removed to the Northwestern Hospital, where he remained unconscious for some forty-eight hours. The surgeons in charge regarded the case as a simple shock, and treated it accordingly. At the expiration of two weeks he had so far recovered as to be removed to his own home, a distance of only a few blocks. When I first saw the patient his general attitude was that of Fig. 1. Examination of the head revealed a slight depression over the upper and middle portion of the left parietal bone—the line of fracture extending down toward the temporal. Slight pressure exerted over the depression would cause him to fall to the floor, and at the same time produce a violent pain in the head which would last for hours. He was also suffering from

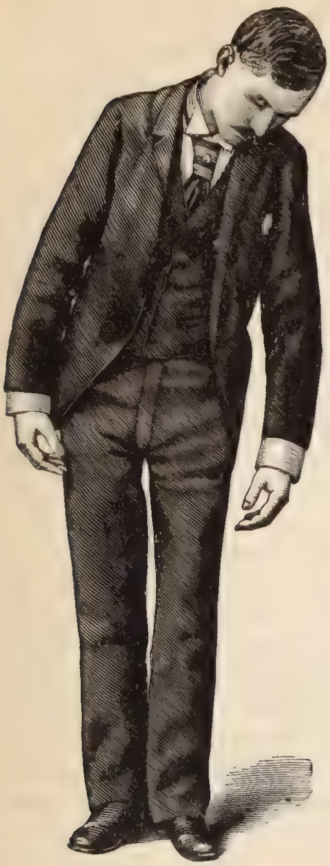

Fig. 1.

double vision which annoyed him exceedingly. His tongue when protruded would turn to the right. His sense of taste was gone, while his sense of smell was stimulated to a high degree. His hearing was not disturbed. Confronted with all the above-named symptoms, I at once concluded that it was a suitable case for trephining, and so expressed myself to the family; but, knowing there was a possibility of a lawsuit growing out of the accident, I asked the privilege of inviting other surgeons to see the case, which was granted. Accordingly I invited Dr. Vaughn, Dr. Carron, Dr. Miner, Dr. Landon, and Dr. Elliott. After giving the patient a thorough examination they concluded it would be better to wait for a short time and see what Nature would accomplish for the patient, as some of the doctors present thought that the lesion was beyond the reach of the trephine. They believed that there was a blood-clot at the base of the brain pressing on the third, fourth, and sixth cranial nerves, thus accounting for the double vision. Others thought, as the depression was slight, the brain would in a short time adjust itself to its new quarters and then cease to cause the patient any further trouble. We waited from April 23d to May 18th for the clot at the base of the brain to absorb and the brain to become reconciled to its new quarters. The patient in the mean time lost his reason, and during the paroxysms would, if left to himself, get out of doors and run in a circle, gradually increasing his speed until he became so exhausted that he would fall down in a spasm, when his attendants would carry him to his room and place him in bed, where he would sleep for some hours. On awakening, his mind would be clear, but he would have no recollection of what had taken place. On May 18th I again urged upon the family the importance of elevating the depressed bone, and gave my unqualified opinion that his mental and physical condition was wholly due to the skull pressing upon the brain, and if operated upon would improve just in proportion as the brain was relieved of its pressure and no more. The family finally accepted my views of the case, and, with the assistance of Dr. Miner, Dr. Carron, Dr. Vaughn, and others, we began the operation by first shaving that portion of the head that was likely to be involved in the operation. A crucial incision was then made over the depression and the flaps turned well back out of the way. The trephine was then placed a little to one side of the depression (marked O in Fig. 2), and a button removed without difficulty. The dura presented a dark, thickened appearance, due to recent inflammation. With the aid of the elevator the bone was raised to its normal position, the flaps were then placed over the wound, a few sutures inserted, and a light compress and bandage applied, which constituted the entire dressing. The patient, on recovering from the effects of the chloroform, expressed himself as feeling quite free from pain, the double vision was gone, the sense of taste was restored, and the sense of smell corrected. He remained in bed for three days, when he got up and dressed himself, declaring that he was feeling quite as well as before the accident. He remained in this condition until about the 20th of July, at which time he began to complain of pain over the left side of the head, which gradually increased until July 25th, when he called at my office to consult me in regard to it. As he was constipated, I prescribed ten grains of calomel to be taken at bed-time, and asked him to report to me at my office the next day in case he was feeling no better. On his way home, as he neared his house, he tried to call his dog, and for the first time he was made aware that his speech had gone, and also his sense of feeling. I was at once sent for, and on my arrival at the house found the patient sitting on the front stoop smoking a cigar and reading the evening paper. On asking him the cause of my being called, he wrote on a piece of paper stating that he could not speak nor could he feel, and at once convinced me of that fact by placing the lighted end of his cigar to his hands and face. After a little further investigation I became convinced that he was without feeling from the crown of his head to the soles of his feet. He remained in this condition from July 25th to October 6th (making in all seventy-five days), when a consultation of several physicians was called, and after giving the patient a thorough examination, there were as many different shades of opinion expressed as to the lesion involved as there were surgeons present. After communicating the views of the surgeons to the patient, I then asked him what I should do. He wrote on a piece of paper: "Operate; I am a winner, let the result be as it may." The next day, October 7th, with the assistance of Dr. Miner, Dr. Baker, Dr. Vaughn, and others, we again proceeded to the operation. After shaving the head it could be plainly seen that there was a slight depression of the size of a five-cent piece at the middle and lower portion of the left parietal bone. Slight pressure over this painful spot would cause the patient to wince and cry out with pain, which fact con-

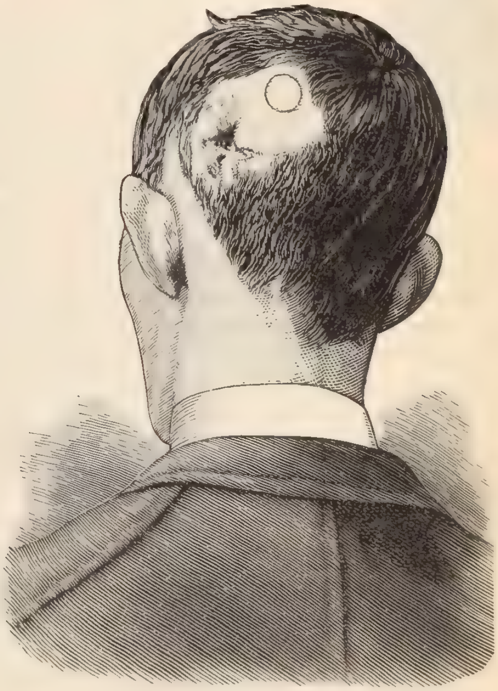

Fig. 2.

vinced me that there was either pus or a tumor in the immediate proximity of the depression. The trephine was then placed directly over this tender portion and a button removed—not, however, without some difficulty, as the upper portion of the skull was very thin while the lower border was quite thick, which caused the dura to be opened to quite an extent. There escaped a few drops of greenish fluid, the product of inflammation. The brain now pouted forward into the trephine-hole in the skull. After a brief consultation with the surgeons present we concluded, as there was evidence of pus being deeply seated in the brain, to leave the wound open for future exploration. A light compress and bandage were then applied, one fourth of a grain of morphine injected, and the patient placed in bed, where he slept for some hours. On awakening, he was delighted at the change that had been wrought. His speech was restored, the sensory disturbance corrected, and he expressed himself as feeling quite like his former self. He continued to remain in this condition for six days, when his speech gradually became a little thickened, and he found it a difficult matter to express himself intelligently, the tendency being to use the wrong word. On examination of the wound, the brain was found pouting still further forward, completely filling up the trephine-opening in the skull. From this fact I became convinced that there was pus forcing the brain forward. I then took a slender-bladed knife and passed it into the brain to the depth of an inch or more, when a dark, bloody pus commenced to flow and run down the side of the patient's neck. A pair of small issue forceps was then passed, with the blades closed, into the wound and the blades allowed to open, which enlarged the opening sufficiently to admit of its being washed out, which was done with lukewarm water. A few strands of oakum were then inserted into the wound for the purpose of securing free drainage. The flaps were then placed over the wound and maintained in position by means of a compress and bandage. Morphine was ordered to be given in case there was pain. On calling in the evening, much to my surprise I found the patient up, dressed, and conversing as well as before the accident.

Fig. 3.

The result obtained convinces me that there are other speech centers besides the one located by Broca in the third left frontal convolution. If there are not other speech centers besides the one of Broca, I should like to know why it is that this patient's speech was restored by trephining and evacuating pus over the region indicated in Fig. 2. While I am aware that it takes more than one case to establish a surgical truth, I am fully convinced that there are two forms of speech located over the region trephined, as before the operation the patient was unable to utter a loud sound, but could converse by writing. Since the operation he can talk, but is unable to write even his own name. In his own language, he says he has forgotten how to form the letters.

## SOME FACTORS INFLUENCING THE FORMATION OF ACUTE ABSCESS.

By WARREN B. CHAPIN, A. M., M. D.

In the number of this Journal issued January 5th, Dr. H. Boyle Runnalls, under the head of "The Ætiology and Treatment of Acute Abscess," undertakes to answer the following questions which appeared in Dr. Hubbard's excellent article on the subject published last year in this Journal:

I. Why does an inflammation at one time result in suppuration and at another disappear and leave no trace?

II. Why in one instance is the process rapid and in another slow?

The first of these questions Dr. Runnalls explains substantially as follows:

"An abscess is disintegrated tissue resulting from the blood-supply *being shut off*. If the blood-supply has not been substantially cut off, the escaped corpuscles are quickly absorbed, and new blood-channels take the place of the damaged ones. Therefore the presence of suppuration demonstrates that complete separation has taken place between the healthy and damaged tissue." This explanation seems to me so utterly opposed to the modern views of pathology that I feel that I may be pardoned for undertaking to show that ($\alpha$) an abscess does not result from the blood being cut off from a given part; that ($\beta$) it is not disintegrated tissue; that ($\gamma$) when complete separation has taken place between the healthy and damaged tissues, the result is not an abscess, but gangrene.

Suppuration is dependent primarily upon an increased flow of blood to a given part, being simply an exaggerated form of inflammation. Inflammation is the result of some stimulus applied, either from the blood or from some form of traumatism. The form depends upon the length of time the stimulus is applied and its power of producing irritation.

If the irritation is slight, there will be merely a slight increase in the flow of blood and a flushing of the surface, as is seen when the face is slapped; it may, however, reach a higher degree and produce capillary engorgement and inflammation but no formation of pus. If the damage is severe or the irritation has been of long duration, then the blood-current becomes slower, and the white corpuscles begin to pass through the walls of the capillaries into the surrounding tissue. It has been proved that these leucocytes have the power of absorbing any tissue with which they may come in contact. As the tissues become infiltrated with these corpuscles, they are absorbed, and finally we find a mass of new cells which have substituted themselves for the healthy tissue and which are surrounded by a fibrinous wall formed from the blood-plasma. This mass begins to disintegrate at the center and passes off as a creamy fluid which is pus. Thus it appears that the formation of an abscess demands a degree of damage to the small vessels sufficient to retard the capillary flow and to favor the migration of white corpuscles. Anything short of this is simply hyperæmia; if it pass beyond, stasis is produced and the corpuscular migration is arrested, thus rendering suppuration no longer possible, and gangrene is the result.

It would seem from this explanation that pus is not "disintegrated tissue," but the leucocytes from the blood which have undergone degeneration; that the cutting off of the blood-supply to a part will not cause suppuration, but go beyond this; that when separation has taken place between healthy and damaged tissue, it does not demonstrate that an abscess is forming, but that gangrene will be the result.

That suppuration is rapid in one case and slow in another, depends upon a variety of causes. It may be due to position, as Dr. Runnalls thinks, but I have found that an abscess will form about as rapidly on the scalp as on another part more subject to motion, yet motion will greatly influence the intensity of the inflammation.

Suppuration takes place much more rapidly in alcoholic and strumous patients and in different cachexiæ, as Bright's disease or in certain conditions when the heart's power is feeble. The importance of seeking for and removing the cause as early as possible is self-evident. If it can not be determined or removed, I believe it is good treatment to hasten suppuration by poulticing early, and to open freely as soon as fluctuation can be felt.

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## TEREBENE: ITS MEDICINAL USES AND VALUE.

By SEBASTIAN J. WIMMER, M. A., M. D.,
ST. MARY'S, PA.

In 1873 our attention was directed toward the importance of this new remedy by M. Ribau, of Paris, in a series of papers presented to the Pharmaceutical Society of that city. It remained, however, in comparative oblivion until advocated by Dr. William Murrell, of London, as an indispensable requisite in the treatment of certain bronchial affections. He based this advocacy upon his rich experience in the treatment of those diseases affecting more or less the mucous membrane of the bronchi and lungs. Terebene ($C_{10}H_{16}$), when perfectly pure, should be a white, crystalline mass, and, in the liquid form, a colorless, clear, volatile oil, having an odor like that of turpentine, with which it is isomeric. This odor, however, is much more agreeable than that of turpentine, and it has been compared by some to that of thyme. It is insoluble in water, and has a specific gravity of 0·860 and a boiling point of about 312·8° F. To prepare it, we add to any convenient quantity of turpentine, drop by drop, 5 per cent. of its weight of United States Pharmacopœia sulphuric acid. This mixture must be exposed to the influence of the atmosphere, in a porcelain vessel, for from twelve to eighteen hours. It is then distilled at a temperature not above 320° F. Remove the oil from the acid, and wash it with a solution of soda, sufficient to remove all trace of its former acidity. It is then subjected to the process of having a rapid current of air pass through it. This, then, is the *crude terebene.* Care must be exercised in mixing the turpentine and the acid, as the resulting action may become very violent. There is on the market a terebene which is totally unfit for medicinal purposes. It is simply *refined turpentine.* The only trustworthy test for *medicinal* terebene is the polariscope. The American oil of turpentine turns the plane of polarized light, with the sodium flame, about 14° to the right, and when terebene has been produced from this it becomes entirely indifferent to polarized light, and should therefore fail to turn its flame either to the right or to the left.

Terebene may be administered in several ways—by taking it internally, upon lump-sugar, by drops, in an emulsion, or, better still, in capsules. It may cause a tough, insoluble mass when dropped upon sugar; hence, capsules are preferable. The drug may likewise be used as a spray, particularly in all throat affections; locally it has also been used with success. The general effects of terebene upon the system have not been sufficiently studied to warrant any decisive discourse concerning their active principles; let it suffice to say that the therapeutic action of this drug has been so efficacious in the treatment of the diseases before referred to that we should be guided by the experience of capable men, and leave nothing undone in our earnest efforts to utilize it in those cases presented to us for treatment. Upon mucous surfaces terebene acts as a sedative and stimulant, particularly upon those of the bronchi and lungs. And as an expectorant it is almost equal to the oil of eucalyptus, though a trifle more stimulating. Its wonderful curative powers when used in any bronchial or pulmonary affection depend upon this effect. Its general effects are analogous in many respects to those of turpentine, although less pronounced. Dr. William Murrell,[*] of London, has had great success with terebene in chronic bronchitis, otherwise commonly called "winter cough"; also in cases of phthisis and emphysema. At the Birmingham Workhouse Infirmary, Dr. Suckling reports a hundred cases, of which ninety-four were those of chronic bronchitis and six of pulmonary phthisis. Of the former, sixty-eight were relieved, and also four of the phthisical patients—that is, 72 per cent. of all the cases were benefited. Several of the cases were greatly relieved, and twenty-eight were not. The symptom most commonly relieved was dyspnœa. All the patients treated said that the medicine considerably eased their breathing. Dr. Suckling gave the medicine in five-drop doses every four hours, increasing the dose to ten drops in a day or two. Most of the patients in the cases referred to were well advanced in years. In three cases of bronchorrhœa reported by Dr. John W. Martin[†] the results were very favorable. He administered the terebene at first on a lump of sugar, but, as this was disagreeable to the patients, he gave the following formula:

℞ Gum terebene,
Spirit. chloroform................āā ♏ x;
Mucil. of tragacanth................ f ʒ j;
Syrup............................ f ʒ ss.;
Water......................q. s. ad f ℥ j.

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[*] "Brit. Med. Journal," December 12, 1885.

[†] "Medical Press and Circular," August 29, 1888.

M. Cammann,[*] in an analysis of eighteen cases, of which eight were emphysema, six bronchitis, three phthisis, and one asthma and bronchitis, shows that all were improved by terebene. The average length of treatment was fifty-five days, and the medicine was given in doses of from ten to fifteen minims, three or four times a day, on sugar or in a mucilaginous mixture. Dyspnœa is the symptom most readily relieved by its use. A. M. McAldowie[†] used terebene in over two hundred cases of phthisis, both internally and by means of inhalation, with great success. He also used it with wonderful results in cases of bronchiectasis, chronic bronchitis, and other pulmonary complaints characterized by profuse purulent expectoration. Dr. Isaac Barton,[‡] of Philadelphia, has treated with great success chronic rhinitis. Out of thirty-five cases, occurring in both private and hospital practice, permanently good results occurred in twenty-seven of the cases; the remaining eight were improved. He says: "*If hypertrophy of any of the nasal membranes be present, terebene is of little use, as surgical means are then necessary for the removal of such growth.*" His method of administering the drug was to begin with three drops of terebene on loaf-sugar three times a day for a week, and then to add one drop for each new week until six drops had been taken. At the end of this time he says that the discharge would have ceased and the nasal passages become clear, thus easing the breathing. The dull frontal headache so common in this affection disappeared. Used locally, he found no benefit resulting; on the contrary, it acted as an irritant. Mr. Stear, of Cambridge, England, says that a mixture of terebene and olive-oil, as an application to wounds, but more especially in cases of cancer and other foul-smelling sores, is hardly inferior to carbolic acid as a disinfectant and deodorizer, and has the advantage of not being poisonous and of possessing an ozonizing property and a pleasant odor. Good results have accrued from the giving of terebene in dyspepsia, especially the flatulent intestinal variety, and it has had good effects in chronic or subacute inflammation of the genito-urinary tract.[#] It readily relieves dyspnœa and lessens and thins all profuse expectoration. Advanced uterine cancers, with offensive discharges, are benefited by its use, and Betrin has applied it in tamponing, pledgets of cotton being saturated with it. I have known it to cause diarrhœa, although I have failed to notice any such effect in the cases noted. In some cases it has caused intense pain in the region of the left kidney, shooting into the pelvis and down the left thigh, but the symptoms ceased when the terebene was discontinued. These cases of intense renal congestion have been noted by several observers. In a case of bronchiectasis, terebene was given, twenty to twenty-five minims, four or five times during the twenty-four hours, when the patient suddenly developed most intense nephralgia, the urine being scanty, high-colored, and albuminous. The condition of the kidneys warrants our careful examination previous to giving the drug, and if any trouble be found to exist, terebene is contra-indicated. That terebene is a valuable adjuvant in the treatment of the diseases named before can not now be denied, and although, like all new remedies, its therapeutic actions may have met with a disbelief or skepticism in the minds of many medical men, the experience of those eminent in medicine should be received, not merely *cum grano salis*, but with the assurance that this experience is based upon a foundation so secure that the superstructure giving prominence to such views can not be but recognized as one worthy of the attention of all those interested in this new remedy.

## HYSTERICAL BLINDNESS IN THE MALE.

By F. W. MARLOW, M. D., M. R. C. S. E., etc.,
PROFESSOR OF OPHTHALMOLOGY IN THE MEDICAL DEPARTMENT OF SYRACUSE UNIVERSITY; LATE CLINICAL ASSISTANT AT MOORFIELDS, ETC.

The following case of hysterical blindness in the male may be of interest in connection with the cases recently published by Dr. William Oliver Moore. It came under my observation and care while I was acting as house surgeon to the Royal London Ophthalmic Hospital at Moorfields.

In July, 1884, a man, decidedly below the average in height and physique, and aged about twenty-eight or thirty years, was led into the out-patient room of the above-named institution by his wife, a large and robust woman. He stated that while on his way home the previous midnight, and just before reaching it, he felt something come into his eyes, and fell down. There was no person near at the time. He found himself unable to see, and called out. He was led home.

On examination, he absolutely denied perception of light, and the results of different tests corresponded with this statement. There seemed no question of malingering, for both he and his wife were doubtless very anxious as to his condition; this supposition being also negatived by the termination of the case. His pupils reacted well to light, and his eyes were in other respects perfectly normal.

The patient was apparently not in the best of health, as indicated by his anæmic complexion, thickly furred tongue, and weak pulse, and he was out of work. It was suggested that the blindness was possibly an early indication of some acute specific fever, but the normal temperature, normal rapidity of pulse, and absence of all other symptoms rendered this hypothesis improbable. On the supposition that the case was one of hysterical amaurosis, atropine was instilled into both eyes, some given to the patient for his own use, and he was assured that he would be completely cured. He was directed to attend again the next day.

Examination at the second visit showed vision to be normal ($V. = \frac{20}{20}$), the pupils being widely dilated.

In this case these facts may be emphasized:

1. The patient was below the average in physique and general health. Contrasted with his wife, he might fairly have been described as "weak and effeminate."

2. The presence of a peripheral exciting cause—dust or some other foreign body on the surface of the eye.

3. As in Dr. Moore's cases, the cure was effected by a shock—namely, the flooding of the retinæ with an unusual amount of light by the instillation of atropine.

13 East Jefferson Street, Syracuse, N. Y.

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[*] "New York Med. Record," Oct. 8, 1887.

[†] "British Med. Jour.," vol. ii, p. 666, 1881.

[‡] "Philadelphia Med. Register," May 7, 1887.

[#] "Therapeutics: its Prin. and Pract.," by H. C. Wood, M. D., 7th ed., Philadelphia.

# TREATMENT OF CHRONIC ULCERS OF THE LEG.

By A. S. COE, M. D.,
OSWEGO, N. Y.

Professor Gross says, in his "System of Surgery," vol. i, p. 177: "Few practitioners look upon this class of diseases in their true light; their ideas of pathology are vague and indistinct; it is, therefore, not surprising that they find themselves so often and so completely baffled in their efforts to cure them. It is for this reason that chronic ulcers of the legs have so long been regarded as the opprobrium of surgery, and that so many patients are obliged to carry their malady to the grave; . . . all arising from the fact that its true nature was not properly understood."

Excluding chronic ulcers of the legs complicated with diseased bone, scurvy, or specific taint, the question arises, Why should an acute ulcer become chronic in the legs more readily than upon any other part of the person, and why should a similar ulcer, which defies treatment on the leg, readily heal when situated elsewhere?

It will be observed that this class of chronic ulcers are almost invariably associated with impeded venous circulation from varicose veins, disease of the heart or kidneys, or some protracted disease from which the circulation of the lower extremities has become much enfeebled. Usually there is a tendency to œdema of the ankles, infiltration into the areolar tissue, and inflammation and thickening of the skin; sometimes eczema, attended with intolerable itching. If there chance to be a slight solution of continuity of the skin due to scratching to relieve the intolerable itching, or a slight abrasion or contusion, an acute ulcer is apt to follow, which rapidly passes into the chronic form, deep seated, with thickened and undermined edges, its bottom covered with dark unhealthy granulations, patches of lymph, and sloughy matter. The concomitant discharge is profuse, fœtid, sometimes green and sometimes sanious. The surrounding skin is dark or livid, thickened, and sometimes covered with dry, scaly crusts. The deeper tissues are dense with infiltrated lymph. No treatment is of avail without restoring the venous circulation to its normal conditions; it matters not whether the obstruction is due to varices from destruction of venous valves, or to disease of the heart or kidneys, or to exhaustion by any long-continued disease, the indications are the same.

In the year 1853 or 1854 I saw an article published in one of the medical journals of the period, and written by Dr. Edward Parker, of Poughkeepsie, upon the treatment of these ulcers of the legs. His method was: Melt in a vessel a quantity, sufficient for one dressing, of the best quality of diachylon plaster; when thoroughly melted, spread it upon a piece of cotton cloth or muslin; if somewhat worn, and thus more pliable, the better. It should be spread evenly and sufficiently thick to cover the entire surface; then cut into strips of two inches or two inches and a half in breadth, and sufficiently long to reach around the leg or foot and lap about an inch. Apply these strips, beginning at the toes, around the foot and leg, allowing each strip to lap over the edge of the one below slightly, until the ulcers and all of the diseased tissue are completely covered. The pressure should be uniform, or perhaps somewhat tighter around the foot and ankle than above. After the plaster bandage has been applied, a cotton roller-bandage should be applied over it, and should extend to the knee. If the discharge is profuse and the ulcers are large, the dressings should be applied at first every day, after thoroughly washing and cleansing the ulcers. I generally cover the ulcers with equal parts of iodoform and Fuller's earth before applying the bandages. After the ulcers begin to heal by filling up with healthy granulations, and the discharge diminishes, it is not necessary to renew the dressings so often. Since adopting the foregoing method of treating chronic ulcers of the legs, of course excluding those complicated with diseased bone, scurvy, and specific taint, I have succeeded without a single failure, no matter how long-standing the ulcers or extensive the destruction of soft parts may have been. The ease and comfort which the dressings give to the sufferer from the start are remarkable. As soon as the veins are supported by the bandages the ulcers take on healthy action and rapidly fill with granulations, and the process of repair is immediate and continuous. The dense infiltrated tissue rapidly becomes absorbed, and the leg soon assumes its normal proportions. The diachylon plaster should be of the best quality and freshly prepared, and the plaster bandages should be spread as they are required to be used. If they have been prepared any length of time, they lose their softness and pliability, and become hard and brittle. The advantage which the diachylon plaster has over any other plaster is because it is soft, pliable, and porous, permitting the perspiration or moisture of the leg and discharge from the ulcers to pass through the dressing. Every other dressing I have tried as a substitute has confined the moisture of the leg and discharge from the ulcers, exciting a troublesome inflammation of the skin and aggravating the ulcers. I presume the reason why Dr. Parker's method of treating these ulcers has not been more generally adopted by the profession is that not sufficient care has been taken to procure the right quality of plaster, or other plaster has been substituted for it.

Two very unpromising cases of chronic ulcers of the legs have been treated in the Oswego City Hospital within the past year. They were veterans of the late war, much enfeebled by disease, and the disease of one of them was aggravated by vicious habits. The ulcers were of over twenty years' standing. The destruction of skin and cellular tissue was very extensive, encircling at least two thirds of the leg. The ulcers are now healed, and the men restored to comfort and usefulness.

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**Experimental Iodoform Poisoning.**—"Dr. A. V. Koriander, of St. Petersburg, has endeavored to throw some light on the vexed question of the suitability of iodoform for use as an antiseptic by poisoning dogs with it, and examining the morbid appearances post mortem. The iodoform was introduced into the peritoneal cavity in quantities varying from 0·3 to 1·5 gramme per kilog. of the animal's weight. The microscopic sections of the organs were stained by hæmatoxylin and lithion-carmine. Nephritis affecting the renal glomeruli was invariably found, and the liver was infiltrated by minute fat granules. These appearances are considered by Dr. Philipovich to be characteristic of iodoform poisoning."—*Lancet.*

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## THE GERM THEORY IN RELATION TO THE TREATMENT OF PHTHISIS.

The Presidential Address published in a recent number of the "Bristol Medico-chirurgical Journal," which was delivered by Dr. R. Shingleton Smith, on October 10, 1888, at the opening of the fifteenth session of the Bristol Medico-chirurgical Society, gives an interesting summary of the latest developments of the germ theory, more particularly in relation to the treatment of phthisis.

From what we know of diseased blood, blood-germs, and bioplastic matter, we have reason to suppose that "blood diseases" are due to morbid conditions of the blood-germs. If the germ be "regarded as the determining cause of infective disease and of its specific character, the proof that it is an independent organism, which can live and maintain its typical development unaffected by its surroundings, and finally breed true, is necessary before any reliance can be placed in the supposition that invariability of the morbid phenomena and of their sequence—in a word, of the type of disease—is the direct consequence and visible expression of the phases of germ life. This implies that each low organism detected and charged with the crime of poisoning has no *alias*, no variety of reproductive form or phase in its life history, or else that it is contagious in one particular form." Thus the old doctrine of *contagium vivum* rises from its ashes, material, and more definite than was possible in premicroscopic times.

If the bacillus is the *materies morbi*, the *contagium vivum*, we can no longer doubt the possibility of the dissemination of disease by means of germs such as are believed to exist in all contagious diseases, and which are now, in the author's opinion, proved for phthisis, because, he says, "if a local tuberculosis commonly results from the inoculation of a pure cultivation of the bacillus, and does not arise from anything from which the bacillus is certainly excluded, what possible escape can we find from the conclusion that the disease resulting from the presence of this contagion may be disseminated as other contagious diseases are?"

A contributor to the current number of the "Medical Chronicle" remarks that "Disinfection—or, in other words, the destruction of the *contagium vivum*—is the most effective means of combating the infectious diseases. The short-comings of this means of treatment do not spring from a want of methods, but from our deficient knowledge of the exact nature of the contagia in the different diseases, and because we do not yet know how those contagia are affected by the various physical and chemical agents proposed for their destruction." By experimenting on each kind of germ product we may find means of disinfection for all specific diseases which will yield results similar to those of mercury in syphilis, or quinine in ague. Admitting that the *Bacillus tuberculosis* is an essential condition of phthisis, we should attempt to destroy the parasite, either by the direct action of germicides or by rendering the soil unsuitable for its existence. When the problem relates to the lung it is especially difficult. Both lungs are often affected, a large area is involved, and a diseased patch can be reached only through the blood-channels. On the evidence furnished by experiment and by the observation of various forms of tuberculosis affecting the urinary tract, the skin, the bones and joints, and the alimentary canal, the author wishes to demonstrate that "in the great majority of cases tuberculosis is at the beginning the result of a local infection or inoculation from outside the body."

*Tuberculosis pulmonum*, even, is commonly limited to one lobe, and may continue for years to be limited to one lung or one lobe only. Thus we have at this stage to deal with a local tuberculosis. The author, believing that it may be treated in accordance with the same principles which are brought into operation in the case of other forms of localized tuberculosis and with equal success, calls our attention to the method of treatment by parenchymatous injection. His observations in regard to the general antiseptic treatment of phthisis by internal medication have been limited, almost entirely to two sets of drugs: 1, iodoform and iodol; 2, creasote and guaiacol.

As all the methods of treatment by hypodermic injection are merely modifications of general medication, in order to be efficacious the drug must be introduced in such quantities that the whole mass of blood may have a percentage large enough to modify the germ development in the part affected. There is grave reason to doubt whether a quantity of any potent germicide sufficient to accomplish this purpose may be introduced, either by stomach or by cellular tissue, without producing toxic effects so injurious that they would more than counterbalance any possible benefit to be obtained. Yet it may not be utterly ridiculous to try "to find a germicide which the blood will tolerate in sufficient quantity for the manifestation of germicidal powers." The biniodide of mercury is said to be the most powerful antiseptic substance known, and is therefore, in the author's opinion, most likely to prove effectual if a solution could be found which might be injected into the lung in sufficient quantities without risk of injury. He has already treated some cases by the hypodermic and intrapulmonary injections of biniodide of mercury. Although injected day by day in doses of one tenth of a grain, it failed to give rise to ptyalism, and when injected into the lung in a dose of one fifth of a grain it gave only temporary discomfort with no rise of temperature. The author, much encouraged by the use of this drug, which is not only one of the most potent germicides but at the same time one of the least irritating for intrapulmonary injection, admits that we are not yet in a position to answer the questions, "What fluid is best?" and "How much is to be introduced?"

## *MINOR PARAGRAPHS.*

### THE BRITISH AND AMERICAN CONTINENTAL MEDICAL SOCIETY.

Under this or some similar title, as our Paris correspondent informs us, it is proposed to form a society of British subjects and American citizens who are engaged in the practice of medicine on the continent of Europe. A number of American and English physicians residing in Paris have been constituted a committee to arrange for a preliminary meeting to be held in Paris in July, and the hope has been expressed that some of the American physicians who intend to visit Europe next summer may attend the meeting. Communications may be addressed to Dr. Thomas Linn, No. 16 rue de la Paix, Paris. The number of physicians eligible to such a society is by no means small, and the usefulness of the organization, it seems to us, may be made very great.

### COCAINE OINTMENT.

According to the "Lancet," Dr. J. F. Somerville has successfully used cocaine ointment for the relief of pain in a case of cancer of the breast. The patient had been operated on about two years ago, the entire left breast being removed. Twelve months after the operation the cancer reappeared, and developed to such an extent that the case was pronounced hopeless. Three months ago the usual intense pain set in, and it became merely a question of alleviating suffering. Other remedies having proved ineffectual, Dr. Somerville resorted to cocaine ointment. The pain was subdued almost immediately and kept constantly in check until the end, which occurred about eight weeks afterward.

### PORRO'S OPERATION.

Dr. D. Berry Hart says, in a recent number of the "British Medical Journal," that the advantages of performing Porro's operation before the inception of labor are very great. Instead of being obliged to wait for skilled assistance and thus risking the child's life, the operator can make his arrangements for a definite hour. Moreover, there is but little danger of hæmorrhage when the operation is performed before labor sets in, provided one operates quickly, uses the elastic tourniquet, has an efficient assistant, and treats the whole matter as analogous to a rapid surgical amputation.

### SOURCE OF INFECTION ON BOARD THE U. S. STEAMER BOSTON.

From the report of the board appointed to investigate the recent outbreak of yellow fever on board the U. S. Steamer Boston which was published in the "Sanitarian" for January, 1889, it would appear that the vessel must have become infected while lying at anchor in the harbor of Port au Prince. Before the occurrence of the two cases of Kelly and Dr. Simon on November 13th, Captain Ramsay learned from the minister that a very malignant type of fever prevailed among the shipping of the inner harbor directly to the windward of the Boston—about a mile and a half distant. Captain Ramsay sailed the next morning, and it is to this prompt measure, combined with the effective sanitary precautions practiced throughout the whole cruise, that we must attribute the escape from consequences more serious even than the fifteen cases of yellow-fever infection.

### ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 5, 1889:

| DISEASES. | Week ending Jan. 29. | | Week ending Feb. 5. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever............... | 17 | 4 | 1 | 1 |
| Scarlet fever................ | 287 | 48 | 300 | 46 |
| Cerebro-spinal meningitis.... | 3 | 3 | 1 | 1 |
| Measles...................... | 301 | 21 | 292 | 23 |
| Diphtheria................... | 181 | 39 | 193 | 44 |

**The Medical Society of the State of New York.**—At the annual meeting, held in Albany on the 5th, 6th, and 7th inst., the following officers were elected for the ensuing year: President, Dr. Daniel Lewis, of New York; vice-president, Dr. Alfred Mercer, of Syracuse; secretary, Dr. Frederick C. Curtis, of Albany; treasurer, Dr. Charles H. Porter, of Albany.

**The Marine-Hospital Service.**—We are glad to learn that Dr. Hamilton has decided to retain his position as Supervising Surgeon-General, as announced in press dispatches of the 2d inst., which also state that he has resigned the editorship of the "Journal of the American Medical Association," the resignation to take effect to-day (the 9th).

**The New York Polyclinic.**—It is announced that appointments of assistants to Dr. A. G. Gerster, Professor of Surgery, are to be made, and that preference will be given to those who have had surgical experience, either in hospital or dispensary service. Application should be made at once to Dr. R. H. M. Dawbarn, No. 345 West Fifty-sixth Street.

**The Newark, N. J., City Hospital Training School for Nurses.**—A trained nurse from this school has recently been appointed matron at the Mary Fletcher Hospital, Burlington, Vt.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from January 27 to February 2, 1889:*

Loring, L. Y., Major and Surgeon. Leave of absence for one month, on surgeon's certificate of disability, is granted. Par. 1, S. O. 6, Headquarters Department of Arizona, Los Angeles, Cal., January 18, 1889.

Price, Curtis E., Captain and Assistant Surgeon. Leave of absence granted in S. O. No. 257, A. G. O., November 3, 1888, is extended two months. Par. 1, S. O. 21, A. G. O., January 25, 1889.

Kilbourne, Henry S., Captain and Assistant Surgeon, will accompany Battery E, First Artillery, changing station from Vancouver Barracks to Presidio, San Francisco, Cal., as medical officer, and upon completion of this duty will report to the Commanding General, Division of the Pacific, for further orders. Par. 2, S. O. 6, Headquarters Department of the Columbia, Vancouver Barracks, January 22, 1889.

Burton, Henry G., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence on surgeon's certificate of disability granted in Special Orders No. 19, January 24, 1888, from this office, is extended six months on surgeon's certificate of disability. Par. 8, S. O. No. 22, A. G. O., Washington, January 26, 1889.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the week ending February 2, 1889:*

Scott, H. B., Passed Assistant Surgeon. Detached from the Naval Hospital, Mare Island, California, and granted one year's sick leave.

**Society Meetings for the Coming Week:**

Monday, *February 11th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private—anniversary); New York Academy of Sciences (Section in Chemistry and Technology); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

TUESDAY, *February 12th:* New York Medical Union (private); Medical Societies of the Counties of Delaware (semi-annual) and Rensselaer, N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Baltimore Gynæcological and Obstetrical Society.

WEDNESDAY, *February 13th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Society of the County of Albany, N. Y.; Franklin, Mass., District Medical Society (quarterly—Greenfield); Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society.

THURSDAY, *February 14th:* New York Laryngological Society; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *February 15th:* Chicago Gynæcological Society; Baltimore Clinical Society.

SATURDAY, *February 16th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

## OBITUARY NOTES.

**William G. Breck, M. D.,** of Springfield, Mass., died on Tuesday, January 22d. The deceased was graduated from Harvard Medical School in the class of 1854, in which year he settled in Springfield, where he has since resided. He had a considerable local reputation as a surgeon. His sudden death occurred during a consultation in Chicopee, Mass. He was a member of the Massachusetts Medical Society.

**George W. Fay, M. D.,** of East Weymouth, Mass., died on Friday, the 1st inst. He was graduated from Harvard Medical School in 1863, and since 1866 has resided in East Weymouth. He was a member of the Massachusetts Medical Society and of the Union Medical and Surgical Association.

**E. Brallier, M. D.,** of Chambersburg, Pa., died on Wednesday, the 6th inst., at the age of forty-eight. He was a member of the Pennsylvania State Medical Society.

# Proceedings of Societies.

## MEDICAL SOCIETY OF THE STATE OF NEW YORK.

*Eighty-third Annual Meeting, held in Albany, Tuesday, Wednesday, and Thursday, February 5, 6, and 7, 1889.*

The President, Dr. SAMUEL B. WARD, of Albany, in the Chair.

**On Confinement in Asylums by Certificates as to Insanity issued by Physicians.**—The PRESIDENT called attention, in his opening address, to a recent decision made by Judge Learned, of the Supreme Court, to the effect that no man could be confined in an asylum on the certificate of two physicians unless it was shown that he was dangerous to himself or others. A suit had lately been brought by the man in whose favor this decision had been made, against two physicians who had issued a certificate of insanity in his case after satisfying themselves of certain mental delusions which had led him to imagine that his wife and daughter had been trying to poison him. No damages had been awarded, but the future liability to such suits deserved to be remembered.

**On Suits for Malpractice.**—Dr. B. F. SHERMAN offered the following resolution: *Whereas*, there is now a bill before the Legislature which requires those commencing suits for libel against publishers and editors to give bonds for all costs; and, *whereas*, ninety per cent. of all suits brought for malpractice are for blackmail; therefore, *Resolved*, that the Committee on Legislation be hereby instructed to use all honorable means to have the bill amended so as to include suits for malpractice. The motion was carried.

**Report of Committee on Legislation.**—Dr. ALEXANDER HADDEN read the report. It favored the legislative enactment in regard to the care of pauper insane and imbecile persons which had been approved of by the society at the previous annual meeting; also a bill to exempt medical supplies and surgical instruments from duty, as an offset to the fact that no patents were granted for the latter and on the general ground of their being for the alleviation of public evils. The committee had exerted its efforts in behalf of legislative action restricting undertakers in the use of embalming fluids which would interfere with medico-legal investigation until a special permit had been obtained. It was also in favor of urging the passage of the bill introduced into the State Senate, on January 28th, creating a State board of medical examiners.

Dr. ROOSA, of New York, objected to the bill placed before the Legislature in 1886, on the ground that it could not pass while it contained the specification that of nine members of the proposed board seven should be named by the State Medical Society. Better regulations as to registrations had become legal since 1886 than those proposed in that bill.

The society finally resolved that it would request the Legislative Committee to prepare a suitable bill, in which a medical board of examiners should be asked for, a majority of whom should be nominated by the society, and which did not interfere with the State laws regulating the practice of medicine as codified last winter.

**The Municipal Control of Diphtheria.**—Dr. CHARLES STORER, of Amsterdam, read a paper with this title. It had been shown that by proper isolation and disinfection the number of cases of diphtheria in a community could be reduced to one fifth of the ordinary number. There were the same reasons for placing the disease under official supervision as applied in the case of yellow fever, cholera, or small-pox. Twenty-three times as many patients died by diphtheria as by variola. He recommended that in every community there should be an officer whose duty it should be to post notices of danger on all houses in which diphtheria had made its appearance. All physicians should be supplied with blanks on which to notify this officer as soon as a diagnosis of the disease was made in a case to which they were called. Tracts containing practical information as to isolation, sanitation, and general treatment were to be distributed to families one of whose members had contracted the disease; and notices should be sent to school-teachers, that they might at once exclude children coming from such families. In the country the schools were the leading means of spreading the contagion. In cities and towns it might also spread by contamination of the drinking-water, by sewers and cess-pools, and by aerial infection by means of ground-air or sewer-gas.

**The Influence of the Mind upon the Body.**—Dr. J. LEONARD CORNING, of New York, in a paper with this title discussed the truths and delusions of psycho-therapeutics, and particularly the phenomena of the "mind cure" and the "faith cure." He showed that by the ordinary operations of the mind, sensation might be either evoked, diminished, exalted, or perverted. Nothing more than undivided attention to a part of the body was needed; expectation or suggestion acted still more forcibly in the same way.

**The Prevention and Treatment of Typhoid Fever.**—Dr. S. S. Burt, of New York, read a paper with this title. (It will be published hereafter.)

Dr. S. Baruch, of New York, gave an account of Brandt's method of using water in the treatment of typhoid, and explained how its real utility was in arousing the reflex centers controlling vital functions, such as excretion, respiration, and circulation, and also in promoting nutrition. Baths given by any and all methods had been found to reduce the mortality from 25 to 7 per cent.; a fairly strict observance of Brandt's rules had reduced it to nearly 4 per cent., a strict observance to 1 per cent., while no patients had died who had come under treatment previous to the fourth day.

Dr. B. F. Sherman, of Ogdensburgh, remarked that in country practice it was much easier for a family to believe that God had seen fit to remove a beloved member from their midst than for them to take a statement from a physician that it was due to filth about the premises that death had come among them.

**Embolic Pneumonia.**—Dr. T. E. Satterthwaite, of New York, in a paper on this subject, showed the distinct nature of this disease. It was often connected with heart disease, especially with disease of the mitral valves. Thrombi also entered the bronchial arteries and caused embolic pneumonia. Cancerous nodules and placental clots were other sources of emboli. The arrest of emboli was favored by the infantile state of portions of the lung, which often persisted after growth had been attained. The congestion which preceded inflammation also favored it.

**The Prevention of Summer Diarrhœa among Infants viewed in the Light of the Lesions.**—Dr. L. Emmett Holt, of New York, in a paper with this title called attention to the lesions amounting to an entero-colitis commonly found in feeble children after dyspeptic catarrh and diarrhœa had existed for a short time. Autopsies had shown in nineteen out of fifty-seven cases enlargement of the solitary follicles, with softening at their summits, which soon resulted in a large number of small round ulcers. It was thus an affection of the lymphoid elements in the intestinal tract. The dyspepsia which caused the beginning of this change often came with teething. As these ulcers never healed, so far as he had discovered, and went on to the death of the child, preventive treatment was of the utmost importance, and to this end milk free from the germs of fermentation must be secured and care exercised to prevent the almost invariable overfeeding of infants which was customary in all classes of society. Loose movements continued for any length of time were never a physiological relief, but represented the beginning of a fatal process.

Dr. Baruch said that, to emphasize the importance of Dr. Holt's deductions, he would only instance how much the avoidance of lesions in the vagina and cervix was known to lessen the liability to puerperal complications.

**The Treatment of Chronic Constipation by Electricity.**—Dr. G. M. Hammond, of New York, in a paper with this title spoke of the great value of electricity in permanently overcoming constipation, and the neglect of this means by both general practitioners and also by specialists. He had relieved cases of apparent fæcal obstruction in five minutes after months of ineffectual catharsis, and in one case had thus cured sciatica. He used a mild galvanic current, the negative electrode being passed well within the sphincter. Faradaic currents were of use only to strengthen the muscles of the abdomen and so aid in defecation.

Dr. A. F. Currier, of New York, remarked that those who had women as their patients might get much aid from electricity as used by Dr. Hammond, especially where constipation came from lack of action in the large intestine. He suggested washing out the colon before such an application. Weaker currents would then be sufficient. A small sponge to pass within the rectum might replace a metal cathode with advantage. Massage and faradism ought to be very useful in restoring strength to muscles of the abdomen relaxed by pregnancy.

Dr. H. R. Hopkins, of Buffalo, recommended galvanism for the cure of inertia of any of the hollow viscera; atony of the bladder causing incontinence of urine had yielded to its use in his experience.

**Membranous Rhinitis.**—Dr. F. H. Potter, of Buffalo, read a paper with this title. About 2 per cent. of all his cases of acute rhinitis had been membranous. There was no assignable cause for the affection and it was accompanied by no systemic disturbances of any moment. It began like any other acute attack of rhinitis, but about the third day the discharge formed a white tenacious coating. If denuded, the surface beneath was tender and showed numerous bleeding points. It resembled the membrane of diphtheria in several respects. Cocaine caused no contraction of the capillaries until healing commenced, although it benumbed the parts. The disease continued through a course of three weeks whether treated or not. Atropine gave no relief; salicylate of sodium only gave a headache when he had used it; bromide of potassium relieved the general nervousness. Tampons of dry cotton in pellets, kept in for five minutes, gave a slight relief, as did menthol also. In one case he had found the inflammation on its first appearance almost entirely in one nostril. The drift of opinion certainly was in the direction of regarding disease in local parts as an expression of some constitutional taint or condition.

Dr. C. C. Rice agreed in regarding the disease under consideration as constitutional. In his own cases he had found gout, rheumatism, hay-fever, and various local causes for a liability to catarrhal inflammations behind the local disease.

Dr. Pooley spoke of a form of membranous conjunctivitis occasionally met with which resembled the fibrinous exudate of diphtheria, but was quite mild.

Dr. Douglas suggested that these might be among those "walking cases" of diphtheria which Dr. Delafield had called attention to so strongly.

Dr. C. E. De La Vergne, of Brooklyn, instanced a family in which diphtheria appeared, of which two died, and a third was very ill, but a fourth had a membranous rhinitis which filled the nares, grew again in two days if removed, and resisted treatment by astringents.

Dr. Pomeroy had seen similar cases in asylums.

**The Efficacy of the Older Methods of treating Nasal Disease contrasted with those of To-day.**—Dr. C. C. Rice, in a paper with this title, reviewed the changes which had occurred within the last ten years in the treatment and understanding of nasal diseases. He said that our knowledge had especially advanced concerning the nature, cause, and treatment of hypersecretion from the nasal mucous membrane. We had found that medication by solutions or sprays failed to change its state at all. We had learned the relative importance of inflammation of the larynx, and that it was secondary to catarrh in the nasal passages. Remarkable progress had been made in the way of recognizing the difference between the mucous membrane in the nose and that in any other part of the body. The occlusion, changed color, and hypersecretion observed in the nasal cavity often invited astringent remedies, which only increased these conditions, for we now knew that we had to deal with erectile tissues, a true cavernous body, any stimulation on the surface of which caused turgescence. If this stimulus were excessive or protracted, the nervous control of this congestion became lost. Either drugs or physiological overaction might bring this about. In health this erectile tissue represented a sensitive, nervous mechanism by which the warmth and moisture of the inspired air were regulated. Thus was proved the necessity of nasal breathing and the evil of mouth breathing. The hypersecretion itself differed from that in ordinary mucous membrane. In the first place, it was a serous secretion; when apparently muco-purulent, it was so from long accumulation due to the air not passing freely over it. The many and far-reaching nervous reflexes which arose from nasal diseases we knew partly, but more were constantly coming to our notice. We had learned in the past ten years to use atomizers for cleaning the nose only, to employ cocaine and the galvano-cautery.

**Report of the Committee on Hygiene.**—Dr. E. V. Stoddard read the report. The committee had investigated the causes of inefficiency of local boards of health as now constituted, and expressed the opinion that probably further inquiry into the subject would show the advisability of changing the so-called unit of territory upon which local boards of health were based, and have them embrace a county instead of a town or city. The committee suggested that the society pass a resolution recommending legislation to compel the removal of the acute insane from county to state institutions.

Dr. A. Jacobi amended it to include the chronic as well as the acute insane. After some opposition, the amendment was carried.

**Vaginal Hysterectomy.**—Dr. James B. Hunter, of New York, read a paper upon this subject.

**Purulent Conjunctivitis of Infants, and Blindness, in the State of New York.**—Dr. Lucien Howe, of Buffalo, in this paper showed by statistics the rapid increase of blindness in the United States, and in the State of New York in particular. He said that it was chiefly due to purulent conjunctivitis of infants, and that this could be greatly diminished by Credé's method—viz., thorough cleansing of the eyes of the newly born, and through the application of a two-per-cent. solution of nitrate of silver. Midwives should be required to report at once all cases of ophthalmia coming under their observation.

**Disorders of Menstruation.**—Dr. Andrew F. Currier, of New York, read the paper. It was a peculiarity of the organs of the body that their functions, when normal, were painless. This he thought was true of menstruation. Disordered menstruation he divided into amenorrhœa, dysmenorrhœa, oligomenorrhœa, polymenorrhœa, and adipomenorrhœa—words whose derivation suggested the nature of the affection. Brief suggestions were made as to treatment. In vicarious menstruation electricity applied to the pelvic organs favored flow of blood to those parts and normal menstruation.

**Delegates to the Society.**—After the report of the special committee, Dr. Wey, Chairman, a resolution was passed instructing the Committee on By-laws to frame a by-law allowing one delegate to the society from voluntary incorporated medical organizations in New York.

**The Medical View of Inebriety.**—Dr. Crothers, delegate from the Connecticut State Medical Society, read this paper. It appeared that at different times, in different countries, inebriety had been regarded and even treated as a disease. At present several journals and societies were devoted to the elucidation of this subject, and over fifty institutions were in existence for the treatment of inebriety. There were numerous circumstances, occurring both before and after man's birth, which favored inebriety. It was all-important that the general profession study the cases, be the judge of the treatment, and not leave it to clergymen, prohibitionists, or politicians.

### *Surgical Section.*

Dr. A. W. Suiter, of Herkimer, in the Chair.

**The Diagnostic Value of Spinal Rotation.**—Dr. Bernard Bartow, of Buffalo, read a paper with this title calling attention to the spinal rotation which was seen in the early stages of spondylitis. He concluded that both in this disease and in the beginning of rhachitis the patient took this position to lessen the pain in an inflamed and sensitive cord. Muscular contraction in time followed and the position became involuntary. Self suspension was inadequate to overcome the deformity. A real cure could be obtained by the following method: A plaster jacket was made in the usual way and removed from the body. It would be, of course, a hollow mold of the body in its existing shape. It was then to be softened and remodeled into the shape which it would have had if the body had been normal. A plaster trunk was then cast in this mold and on it he shaped a leather strait-jacket, which was then put upon the patient. A few days of quiet in a recumbent position followed, and after that the patient could go about, the jacket being always a means of keeping the trunk in its normal condition. Slight scoliosis might be treated thus to great advantage if the other means—such as diet, massage, exercise, etc.—were added. As strength returned, the leather jacket could be perforated so as to become lighter and less and less resisting. This jacket did away with the need of a series of plaster jackets.

Dr. L. A. Weigel, of Rochester, remarked that he had observed a rotation of the spinal column early in spondylitis. If the rotation were then really due to an irritable condition of the cord, would not simply a recumbent posture from the outset of the disease be as good as and better than any apparatus to restore position?

Dr. A. M. Phelps, of New York, objected to having the treatment of Potts's disease associated with that of lateral curvature, a disease which he considered incurable. He did not use a succession of jackets, but kept a single jacket on for six months, a year, and even two or four years. After it was removed, if a need came for a light, flexible, strong brace, nothing could be better than the wooden corset.

**Recent Advances in the Treatment of Hernia.**—Dr. W. B. De Garmo, of New York, in a paper with this title treated the subject of strangulated hernia and recent advances made in its treatment. It was necessary to consider: 1. The varieties. 2. The operations which different leading men had put forward, each using his own method in all cases. 3. The need of selecting methods which best suited different varieties of herniæ. Each step in the operation had been made a subject of argument. Bryant, of London, had said that the opening of the sac multiplied the risk four times. But other writers thought differently. When herniæ were small and recent, it could be assumed that there were no changes inside. If of long standing, some portion always adhered, and remained so if the sac was returned to the abdominal cavity. Masses of omentum must always be removed, even if reducible. To prevent the secondary hæmorrhage which might follow amputation of a piece of omentum, it was only necessary to spread out the stump of omentum and tie the vessels separately. Stitching the stump of the sac into the canal was always followed by return of the hernia. In recent small herniæ, torsion of the sac was a good measure. As to the treatment of the canal, there was much difference of opinion among authorities. Dr. McBurney, of New York, split the anterior wall and filled the canal with iodoform gauze, thus forcing the wound to heal by granulation. However, it was known that in time scar-tissue became weaker than sound tissues, and might leave the patient in a worse condition than before the operation. He used Barker's method of narrowing the anterior wall by heavy sutures of black silk and leaving a drain in. As to after-treatment, there was disagreement again. Some used a truss in all cases, and some not at all. Correct practice lay between these two extremes. None was needed after small herniæ had been treated by torsion, but for the larger a pad should be applied so as to press on the canal above the site of the wound.

Dr. J. P. Creveling, of Auburn, had always opened the sac much as he would an abscess.

Dr. Phelps, of Buffalo, recommended permanent sutures of silver wire.

Dr. De Garmo, in closing the discussion, doubted the need of Dr. Creveling's manipulation of the sac, and objected to the silver wire on the ground that in the New York Hospital, under Dr. Weir, ulceration had several times followed its use.

Dr. L. S. Pilcher, of Brooklyn, and Dr. William Hailes, Jr., of Albany, also discussed the paper.

**Operation for Hyperostosis of the External Auditory Canal.**—Dr. T. R. Pooley, of New York, read a paper with this title. He considered the dental engine a good means of removing such accretions of bone from this situation where mismanagement or accident might have such unfortunate results; but still better was the electro-osteotome of Dr. Roberts, of New York, with the chuck attachment, carrying saws, knives, burrs, drills, and hollow trephines of different sizes. The electro-osteotome was even more delicate than the dental engine. It was less tedious than removal by gouges, files, galvano-cautery, or écraseur. There was not the danger of injury of deeper parts by pressure or slipping of the instruments, and a lateral excavation could be made by a burr, which often greatly aided in the removal of spiculæ of bone. He related the history of several cases in which he had operated, in one of which suppurative inflammation of the middle ear had at once followed, probably due to the shock of the operation in neighboring tissues. When the soft tissues became swollen in the course of inflammation following the operation he had found dilatation of the canal by rubber tubes, catheters, etc., worse than useless, whereas hot water repeatedly applied soon brought about a cure.

Dr. C. C. Rice, of New York, spoke in favor of using every precaution, after such an operation, to prevent the absorption of septic material. He preferred an open wound kept clean by constant irrigation.

Dr. O. D. Pomeroy, of New York, thought the advisability of doing no operation at all should often be seriously considered, in view of the sea of troubles which sometimes followed operation. Applications of iodine, etc., were certainly always useless. In exostosis a large growth could often be easily removed by paring it away piecemeal with a chisel. Inflammation of the drum was too apt to follow the operation for hyperostosis independently of sepsis. It had followed operation on the inferior turbinated bone by the galvano-cautery.

Dr. Pooley closed the discussion by remarking that plugging the Eustachian canal had been found to cause hæmorrhage into the cavity of the middle ear, and so inflammation.

(*To be concluded.*)

## NEW YORK ACADEMY OF MEDICINE.

*Meeting of December 20, 1888.*

The President, Dr. A. Jacobi, in the Chair.

**A New Study of Lobar Pneumonia.**—Dr. T. E. Satterthwaite read a paper with this title, which was based on an exhaustive examination of old and new literature relating to the disease, and on fifty-six fatal cases occurring in the reader's own experience. He concluded that epidemics of pneumonia had occasionally occurred, but not often; and that they had followed either long-continued cold winds or confinement in foul air. They varied with the locality. Thus in 1709, in France, an epidemic of pneumonia in Languedoc and Provence blended into severe influenza in England. The isolated cases of pneumonia were caused in some cases by prolonged exposure to cold, especially to cold winds and draughts, by impure air in other cases, but often by still other things of which we knew almost nothing. He recognized as separate types which presented both pathological and clinical differences: 1. Acute lobar pneumonia. 2. Secondary lobar pneumonia. 3. Embolic lobular pneumonia. 4. Bronchial lobular pneumonia. 5. The interstitial pneumonia of heart disease. The paper dealt with the first two of these varieties only. The first occupied a unique position in the catalogue of diseases, being unlike any known disease either in anatomy or symptoms. It should also be distinguished from the catarrhal phthisis of Niemeyer known in some quarters as catarrhal pneumonia, from syphilitic pneumonia, from the interstitial pneumonia caused by the inhalation of foreign substances, and from hypostatic pneumonia due purely to chronic venous congestion. The term lobar pneumonia was to be preferred to croupous pneumonia.

In the reader's experience, acute lobar pneumonia was likely to begin with symptoms in the following order: 1. Pain, prostration, and cough. 2. A severe chill. 3. Nausea. 4. Rise of temperature to 103° or 104°. Pain in the limbs, headache, difficult breathing, and an alteration in the usual ratio between the pulse and the respiration.

The chill might be overlooked from its occurring during sleep, or might be mistaken for an exposure to cold which existed only in the imagination. It was of exceedingly common occurrence. The cough might be absent in old people. The characteristic expectoration of pneumonia, ordinarily of a rusty or prune-juice color, might in exceptional cases be red, black, green, or colorless. This sputum had three characteristic qualities—color, consistency, and coalescence. It was sometimes absent, and always absent in very young children. A rusty-colored sputum was occasionally met with in other diseases than pneumonia; thus, in naso-pharyngeal catarrh where there was hæmorrhage, but without the other characteristic qualities. Acute laryngitis sometimes gave the characteristic sputum of pneumonia in every respect except the color.

The reader had found acute renal disease present in thirty-six per cent. of his cases, and an exacerbation of a chronic kidney trouble in five per cent. He was convinced that examination, if it had always been made, would have shown higher percentages.

Among the earliest of the physical signs was a loss of elasticity in the chest-wall on percussion, as described by Grisolle, especially in the supraspinous and infraspinous fossæ. Much more important was the crepitant râle produced by fluid matter entering the vesicular substance of the lung, and it might almost be regarded as a characteristic of lobar pneumonia. It was, however, admitted in the best quarters that the crepitant râle occurred not only in œdema of the lungs and pulmonary apoplexy, but occasionally in the other types of pneumonia, in phthisis, pulmonary syphilis, and even in bronchitis. The reader discussed the other physical signs, the prolonged expiration, the voice, the pain in the chest, the pulse, and the respiration. Where the pulse was twice the normal, the respiration was frequently three times the normal in frequency. Delirium was especially common in alcoholic patients. The duration was usually between five and nine days. Any case for which a duration of over two weeks was claimed was to be looked upon with the gravest suspicion.

Death was most frequent at the crisis, which occurred usually on the sixth day. Its immediate cause was usually heart failure, resulting either from overwork and exhaustion, or from the influence of the poisoned blood on the nerve-centers, or both. Of eighteen cases in his own experience, where noted, in eleven death came by heart failure, in five from anæmia, and in only one from respiratory stoppage.

Returning to the subject of the causation of pneumonia, the reader quoted various diverse opinions. Sturges had believed that cold, dry, penetrating winds caused the disease. Grisolle thought exposure to cold only an occasional cause, being recorded in a fourth of his cases only, and other observers were quoted who had recorded previous exposure in from one fifth to one half of their cases, while Ziemssen had been able to trace it in only ten out of one hundred and eighty-six cases, and Griesinger in but four out of two hundred and twelve. The speaker had found it ascribed in twenty-two per cent. of his cases, but, as Grisolle had observed, the initial chill may frequently have been mistaken for an exposure of the body. The epidemic form had often been traced to the confinement of many persons in a single room, thus to foul air. It was frequently associated with diarrhœa or dysentery. A certain number of cases could be set down as due to exposure. The causation of a considerable number was then unexplained. The connection specifically of any bacteria with pneumonia had not as yet been shown.

The mortality of lobar pneumonia varied greatly, in the opinion of the reader, with several factors; especially did it depend on the age of the patient. It also changed with particular years, because the types of pneumonia varied from year to year. The same physician using the same method of treatment obtained different results in different years. Furthermore, each case of acute lobar pneumonia stood by itself. The lowest mortality had always followed the expectant plan of treatment. The causes of death obviously pointed to the direction in which the main efforts in treatment should be made. It was not, then, by reducing the temperature that real aid was to be given so much as by sustaining the heart and obviating renal disease. It had been found by post-mortems that the use of antipyretics not only weakened the heart, but had some unfavorable action on the kidneys.

Every case should be treated by itself, and indications met as they arose. Thus copious and repeated cuppings gave relief in sthenic cases, cold applications where the patient was less vigorous, large doses of mercury where there was lack of action in the liver, alcoholic stimulants where the heart was weak, and diaphoresis where the kidneys showed loss of normal action. The temperature of pneumonia he regarded as a symptom of disturbance, and not as an added danger.

Secondary lobar pneumonia was a disease that followed other diseases, and hence might be called consecutive. It followed upon nephritis, alcoholism, phthisis, burns, and surgical operations. It was to be regarded as a subacute form, with its clinical signs often ill-defined and its approach so insidious as often to escape ordinary observation. It differed from the acute lobar pneumonia in respect to the age of the individual, the apparent causation, the character of the pulse and respiration, the temperature, and the tendency to suppurative changes in the lung. Still it was often first recognized at the post-mortem. The chill was very often absent or slight, and the pain in the side was not constant. The breathing might be easy, but the crepitant râle was usually heard. The temperature was, on an average, lower than in the acute form and had less relation to the severity of the disease. The pulse was slower. The most decided symptoms in the reader's experience were bronchial breathing and dullness. They had been present in seventy per cent. of his cases. The expectoration was apt to be scanty. He had noted it in a third only of his cases. Renal symptoms, however, were apt to be more acute than in primary pneumonia.

The PRESIDENT, in commenting on the value of the paper, recalled a time not long past when Dr. Francis Delafield read a paper upon so familiar a subject as typhoid fever, in which the society had been given a surprising amount of new information. New light had at least, as in the case of the present paper, been thrown upon old data.

Dr. A. H. SMITH called attention to the peculiar range of the temperature so characteristic in pneumonia, rising rapidly at the outset of the disease, remaining well up until the fifth or sixth day, and then as suddenly falling, even to below the normal. This was unaccompanied by any corresponding change in the physical signs, and indicated the presence in the disease of some element other than the inflammation in the lung tissue, for that remained unaltered. Something undoubtedly took place at the same time as that in which a febrile movement was so marked; perhaps it was the formation of poisonous alkaloidal substances somewhere in the body. He thought that, to solve the question of the ætiology of the disease, search must be continued for a germ, a bacillus, either the pneumococcus or something else of the sort. The disease was peculiar in another way; the obstruction to the pulmonary circulation caused the blood to accumulate in the right side of the heart, while there came to be less and less blood in the arterial side, which was left without work to do. The heart was thus very apt to become overworked, and its stimulation became a matter of the utmost importance. The existence of vaso-motor nerves in the vessels of the lungs had been denied. The stimulant needed to be one which acted directly on the heart fiber. The treatment of pneumonia was hard to decide on in theory, and clinically so many measures had had warm advocates that this of itself showed there was no real treatment in existence. Bleeding had some justification, and it did give relief for a time, as shown by a lessening of the moist râles and improved respiration, but the time was very short, while the blood was impoverished to an extent from which it did not soon recover.

Death came by failure of the overworked heart, a result to which the high temperature and the presence of poisons in the blood, which acted on the nervous centers, contributed more or less. He believed that the depressing antipyretics inevitably lessened the chances of recovery, and thought cold affusions all that could be needed. The impairment of the circulation also led to the retention of waste matters. It was well to hasten their removal by stimulating the skin and bowels. In view of the ease with which great harm could be done in treating pneumonia, it was not surprising that the expectant plan had been so well received. Itw as certainly necessary to be very careful.

The speaker recommended inhalations of oxygen gas, the slight excess of it that was taken up by the blood seeming to be of service. The labor of respiration was lightened, and the consequent increased exudation into the lung checked. Besides this, heart stimulants were necessary; but they needed to be used cautiously, as heart stimulation could be easily overdone, and alcohol might easily become a direct irritant.

Dr. BEVERLEY ROBINSON, taking up first the question as to the causation of pneumonia, could say only from his own observation that great bodily or mental fatigue, especially if there was exposure at the same time to foul air, was a very efficient cause, and commonly the only one found. In regard to the type of the disease varying from year to year, it had seemed to him to do so much as some of the infectious or epidemic diseases did. It had given rise to the great divergence of opinion about the value of various methods of treatment. He agreed as to the bad policy of using dangerous drugs to remove what was, after all, only a symptom of the condition—namely, the high temperature. He had found that digitalis reduced temperature well and safely in this disease. His plan of treatment was to give oxygen gas, strong black coffee, brandy and milk, to keep the patient protected from draughts, and to give at intervals a special heart tonic, such as strophanthus. He disapproved of the oil-skin jacket and cotton over the chest. It produced a layer of moist air and a wet, clammy surface, so that the risk of the patient's taking more cold was seriously increased.

Dr. Simon Baruch referred to the process of evolution through which his mind had gone with respect to the treatment of pneumonia, and recalled a time when calomel, nitrate of potassium, antimony, and veratrum viride were regularly administered to patients. Patients frequently recovered from the disease, as shown by a subsidence of all the physical signs, but they very commonly died afterward. The profession owed much to the homœopaths of the old school (not the present nondescripts who carried that name), whose remedies, so-called potencies, were absolutely without any effect at all, and enabled all to see what good nursing alone could do. He considered that, of all diseases accompanied by a rise of temperature, pneumonia was least likely to do badly on account of the latter. Not even quinine was really called for. In regard to the stimulation of the heart (and only the right heart needed any aid), he considered drugs as simply spurring a jaded horse, so to speak. To give real relief to the overcrowded ventricles, he recommended that the amount of blood in the portal circulation be reduced by giving eight or ten grains of calomel with a saline cathartic. Afterward it would be in order to give whisky and digitalis, but not before. He attached less importance to the change in type of the disease than many did. The cotton and oil-silk jacket he thought useful. Common raw cotton, not absorbent or "medicated" cotton, was the thing; it kept the skin hot and made as good a poultice as could be desired.

Dr. Robinson repeated his belief that a poultice of any sort was radically improper in pneumonia, and so too a cotton jacket. It kept a layer of water retained on the surface of the skin, in case the patient was perspiring at all. Calomel he thought quite as effectual in much smaller and more frequent doses instead of in the single large dose given by Dr. Baruch, while at the same time the general strength was not so diminished.

Dr. Satterthwaite was pleased to find so general an agreement in regard to the significance of temperature in pneumonia. Cases of the disease were not uncommon with temperatures of 107° or even 110° which were recovered from, while patients with a subnormal temperature frequently died.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN SURGERY.

*Meeting of December 9, 1888.*

Dr. R. F. Weir in the Chair.

**The Results of Complete Extirpation of the Tongue.**—Dr. W. T. Bull presented before the Section a man whose tongue he had entirely removed three years previously on account of tuberculosis. Notes of the case and a description of the operation had been published in the Journal two years before. The man had remained free from disease since. It was interesting to observe how slight was the deformity produced in the face. Beyond a slight sinking of the submaxillary regions, there was no change in the general contour, although the tongue had been excised quite down to its attachment to the hyoid bone. The man swallowed food and drink with entire ease. He had also learned to speak without a tongue—so well, in fact, that he had recently been in the New York Hospital for two weeks for the treatment of a fracture before the attendants noticed sufficient peculiarity in his speech to lead them to inquire as to its cause. It seemed that when the patient went to work among strangers there was at first some difficulty in making himself understood, but in time this passed away. Words containing the sounds of "m," "n," "th," "d," "k," and "g," were imperfectly vocalized. The sense of taste was as good as ever, the sensation being felt in the floor of the mouth. The outcome of the operation should inspire considerable confidence in this radical treatment of malignant disease of the tongue.

The Chairman remarked that in five out of seven cases which he had known of where the tongue had been extirpated for tuberculosis there had been a recurrence in surrounding tissues, despite great thoroughness in the operation. Dr. Bull was to be congratulated on a very fortunate result in the case presented.

**Operation for Incontinence of Fæces.**—The Chairman presented a man on whom he had operated eighteen months before to obtain a restoration of sphincter action at the anal outlet, which had been destroyed by division for fistula. The condition previous to operation had been such as to force the patient to abandon work altogether. It had been possible to place three fingers with ease into the canal-like cavity where the anus should have been. The broad, leathery cicatrix lining this cavity had been dissected off till the mucous membrane of the bowel was reached and the retracted sphincters were restored to position and function, so that gas could be retained, and the patient had normal passages.

**A Heel restored by Graftings.**—Dr. C. A. Powers presented a patient who, some months before, had suffered a comminuted fracture of the os calcis in a railroad accident. The larger fragments had been wired together, and had healed by first intention. Many smaller fragments had been removed or else had sloughed away. A considerable amount of the surrounding soft tissues had been irreparably injured, and had been removed. It had become evident that the loss of substance would result in making the foot entirely unserviceable. By a series of small transplantations of skin and, finally, by a large graft taken from the calf of the opposite leg, the gap in the heel had been filled in so as to restore both the shape and the usefulness of the foot to a large extent. A large, thin cicatrix had lined the bottom of the cavity, which adhered to the bone and had nearly ceased attempts at granulation. In former times such a foot would have been amputated at once. This cicatrix and all the weakly organized bordering parts had been cut away when the graft was made. To insure complete rest during the healing of the latter, the knee had been put across the other in a "figure-4" position; however, in order to accustom the knee to remaining flexed in this position, it had been previously kept for some time in plaster of Paris.

Dr. W. T. Bull, being requested by the chairman to open the discussion, spoke in praise of the operation and its quite remarkable results. He advised that, whenever grafting was found to be necessary, it should be undertaken as early as possible, since every added week of confinement to bed lessened the general vitality of the tissues, and so the chances of success in any plastic operation. Absolute immobility of the limb was necessary, and the plaster-of-Paris splint beforehand, to get it accustomed to the desired position, was an excellent idea.

Dr. R. Abbe mentioned a case where both palms had been destroyed by fire and a broad cicatrix formed, being about all there was left over the bones. He had dissected off this cicatrix, and had prepared flaps in the thighs, under which he had then slid the hands. The patient having to keep bent forward in a single position, which before long became intolerably irksome, he had, by giving her morphine, made it possible for her to endure it for two weeks till union took place.

**Enormous Nævi cured by the Galvano-cautery.** — Dr. Abbe presented a child of twelve years whose treatment for nævi of phenomenal size was nearly complete. These had appeared as soft vascular tumors just beneath the skin, at first on the fingers, then on the forearm and arm, and finally about the root of the neck, where, from their size, they became, so to speak, great bags of blood which filled the whole hollow of the shoulder. He had at first treated some of the smaller of these tumors on the fingers by electrolysis, using fine needles, making from fifty to a hundred punctures, and holding the needles inside till he heard the blood bubbling; but this method had not succeeded when used to reduce the larger tumors in the arm. He had had better success with the Paquelin cautery and the galvano-cautery. At the elbow he had cut out one of the tumors, but the hæmorrhage had been such that he had not dared attempt to remove the larger ones about the shoulder. For these he had arranged a device which was, so far as he knew, a new one. A platinum wire had been introduced beneath the skin, carried around the vascular tumor, and brought out again nearly at the point of entrance. Then a strong galvanic current had been sent through the wire and the loop of the latter slowly withdrawn, burning its way through the vascular mass and out from the skin between the points of its entrance and exit. It had left but a slight red cicatrix an inch in length where the loop had been withdrawn, and the nævus had been almost entirely reduced. The only other method which the speaker considered adequate for the treatment of large nævi was that recommended by Roser, who drew through the tumor fifty or more threads charged with persulphate of iron.

The Chairman observed that marked cerebral and cardiac symptoms had sometimes followed injections of very small amounts of persulphate of iron.

Dr. Bull had only dealt with small nævi. He was much encouraged by Dr. Abbe's results. Once he had attempted to dissect out a nævus of some size at the elbow, but the hæmorrhage had been such that only a saline transfusion had saved the life of the patient.

The Chairman related a similar instance.

Dr. J. D. Bryant related an instance where hæmorrhage during removal of a nævus was controlled by temporary ligatures about the supplying vessels.

Dr. Abbe remarked that these large nævi consisted of arteries as well as veins, although no pulsation was felt, since it was muffled by the abundant veins which made up the larger part of the mass.

**Laparotomy and Nephrorrhaphy.**—Dr. J. D. Bryant gave the history of a very complicated and obscure case in which intestinal constriction from some cause had been combined with displacement of the kidney. The case had passed through the hands of several physicians and surgeons of note before cure was effected by a radical operation. The patient, L. H. W., a clerk, aged twenty-eight, single, temperate, and with good family history, had for a long time previous to his acuter illness suffered from dyspepsia, and three or four years previous to it had had an acute attack of peritonitis on the right side of the abdomen. He had been engaged in continuous hard work since the age of eleven years. As much as seven years prior to the operation, while at work one day, he had felt a peculiar sensation in the right lumbar region attended with fatigue. This had been soon followed by severe constipation, loss of appetite, pain and tenderness in the right side, chilliness, and nausea. The pain had prevented walking, standing, or sleeping. This attack had entirely ceased in two or three days, but it had returned, and had continued to return at intervals of three months or less. The nausea in many of these attacks had passed into vomiting, and the stools had become so small as to resemble a pencil in size and shape. Food could not be retained and strong purgatives had been without effect. The lower abdomen had become distended, this and the other symptoms becoming worse with each attack. A painful movable tumor could be felt in the right lumbar region, which had led Dr. Janeway, himself, and others to believe that a partial obstruction of the ascending colon was associated with a floating kidney.

When the abdomen was laid open by an incision through the right linea semilunaris they had found the hepatic flexure and the upper half of the ascending colon adherent to the parietal peritonæum, and eleven fibrous bands stretched across the ascending colon below the flexure, reducing its lumen at one point to a fourth of its diameter. These had been divided and the colon separated from its adhesion to the abdominal wall. The wound had then been closed; it had healed rapidly and relief had seemed complete for the next three months, when the kidney had again become enlarged and very painful. At intervals thereafter, especially when standing or engaged in any physical effort, the kidney had continued its peregrinations, and the patient had suffered from nervousness, debility, nausea, and sometimes diarrhœa. He had been accordingly advised to submit to an operation for anchoring the kidney. Nephrorrhaphy was performed on the 28th of last November. The usual incision had been made in a vertical direction along the outer border of the quadratus lumborum, and the kidney, inclosed in its fatty capsule, had been brought into view. The latter being torn through and about three inches of it removed on each side (after drawing it up and out through the wound), it had been turned over the edges of the external wound and firmly fastened to them with carbolized silk. This measure had confined the kidney in the wound, but had not prevented its moving with each act of respiration. However, gentle pressure made in front had readily confined the kidney in position. Therefore, in dressing the wound, a counter-pressure had been applied in front, over the kidney. Complete recovery had followed, only an occasional burning sensation and an indefinite sense of drawing being left to remind the patient of his previous condition. These were due, in the opinion of the speaker, to the contraction of the cicatrix where the capsule had healed to the edges of the incision, and to the shortening and tense state in the capsule which nearly surrounded the kidney and now kept it in place.

The Chairman commented on the connection between displacements of the kidney and disturbances in the stomach and bowels. In his own experience, pads had given little relief. A large sponge of suitable size had been more useful; but he now preferred operation to any external appliances.

Dr. Bryant had tried pads most religiously and had failed to get any aid from them. In a discussion on pads which ensued, one speaker referred to ten or fifteen cases which he had treated by pads, many of which he had cured and three of which he had entirely relieved after an operation had failed to do so. He used a spring truss and a pad as large as his hand, placing the latter quite low so as to make pressure on the parts beneath the kidney.

Another member recommended a band of strong duck, reenforced by hoop-skirt wire, applied and adjusted by the patient himself.

**Dupuytren's Contraction.**—Dr. Willy Meyer presented an elderly man upon whom he had operated for this condition. He mentioned different theories held as to its causation and the various modes of surgical relief. He preferred, on the whole, the removal of a long strip of the palmar fascia in the line of the contraction, the strip tapering to a point above.

Dr. Abbe recommended making a series of sections across the line of contracture, but had also obtained good results from excising a band of the fascia. Either operation could be done in ten minutes under local cocaine anæsthesia. He thought it very important not to put the hand into full extension or over-extension afterward, as it set up a state of excitement in the fascia and caused pain and œdema. The condition was already one of hyperplasia of the aponeurotic structures, possibly due to irritation made liable by the absorption of the underlying cushion of fat.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Meeting of November 26, 1888.*

The President, Dr. A. S. Hunter, in the Chair.

**Inaugural Address.**—The President, on taking the chair, read an address in which, after a review and commendation of the society's career in the past, he called attention to some of the means which would tend to give it greater influence, interest, and usefulness. In the first place, he urged the necessity of a full attendance of members at the meetings. A full attendance and a good discussion by competent men were needed in order that the best men might be induced to write. On the other hand, papers should be on subjects of popular interest, they should have full titles suggestive of the questions to be discussed (and sent out on the cards), and they should be much simpler than was usual. Less historical matter in the paper, and more discussion after it, were to be desired in most cases. It would be of much advantage if more patients were presented for examination, and if more condensed, written reports of interesting cases were read by various members. If these reports were short, clear-cut, and shorn of every unessential detail, the early part of the meeting could be profitably employed, and the paper be read afterward to a fuller audience.

**The Significance of Cough and the Use of Expectorants.**—Dr. W. H. Thompson read a paper with this title. He called attention to the routine into which physicians often settled in their treatment of cough. Cough was an effort at expectoration caused by irritation of a body in the respiratory tract, or some other similar irritation. It was a reflex action of which there were many afferent sources, and in many instances might thus be without effect in the expulsion of anything. There were about fourteen different causes of cough. All the non-expectorating varieties had one feature in common. The sound was single, like the stroke of a hammer, and successive coughs had no variation of note. Expectorating coughs, on the other hand, ran through a series of notes, like the sound made by a chain dragged over a hard body, and always continued to the end of the series, or till the expulsion of the foreign body. The speaker then reviewed the various coughs and the rational means of relieving each according to its cause, sometimes by small opiates, at other times by demulcents, and at others by expectorant drugs. He spoke of the hacking cough of pleurisy, its meanings, and its relief by strapping that side of the chest so as to secure rest. This done for a pleuritic cough in the beginning of phthisis much delayed the development of the latter. The cough of pertussis could be stopped in a week's time by full doses of belladonna (sometimes with the addition of a little chloral), although the disease went on to the end of its course. Other coughs—due to uterine irritation, aneurysm, digestive disturbances, enlarged bronchial glands, foreign bodies in and diseases of the ear, mitral insufficiency, irritation of the pharynx, abscess of the liver, or to some cerebral affections—were also discussed with regard to their diagnosis and treatment.

When a cough of the expectorating variety was difficult on account of the viscidity of the phlegm, the administration of an oil greatly lessened this difficulty by causing liquefaction of the secretions. The best oil for this purpose, although unmentioned in most text-books, was the raw linseed-oil given in an emulsion. It was also an excellent substitute for cod-liver oil, when this could not be borne, in phthisis. It relieved bronchial asthma and asthma in those much affected by changes in weather; also congestive bronchitis, the bronchitis of heart disease, and senile bronchitis. He recommended the following formula:

| | |
|---|---|
| Linseed-oil | ℥ xv; |
| Oil of wintergreen,<br>Oil of cinnamon, | āā ʒ ij; |
| Glycerin | ℥ v; |
| Simple syrup | ℥ x; |
| Water | ℥ xxiv |

—made into an emulsion. Dilute hydrocyanic acid (ʒ ijss.), Magendie's solution (♏ xl), or chloral (ʒ jss.) might be added in suitable cases.

Dr. A. Jacobi wished to take a gentle exception to some points in the paper. There was little to be added to it. He did not think the non expectorating cough due to enlargement of the bronchial glands could positively be recognized before an autopsy. We could assume the presence of enlarged bronchial glands under certain conditions, but the character of the cough alone did not point to them. The pharyngeal coughs were sometimes caused by the tickling of an elongated uvula. When cough occurred on lying down or on rising from sleep, it was apt to be due to collections of mucus in the pharynx. Food collecting in the crypts behind enlarged tonsils sometimes caused cough. Where pharyngitis caused cough it was best relieved by frequent sipping of water or Vichy.

Dr. Beverley Robinson thought the prescription given by Dr. Thompson contained too many ingredients in mixture. He considered that an examination by a man familiar with rhinology and laryngology was always necessary if we would decide on the source of an obscure cough. As to the quite common cough due to adhesions of the pleura, it was better, in his opinion, to prevent the formation of adhesions by a timely removal of a long-standing effusion than to strap the chest afterward.

Dr. Simon Baruch thought a sufficient search was rarely made for the real causes of cough, and deprecated the giving of prominence to any medicinal remedy for cough lest it prevent full search for its cause being made. These so-called expectorant drugs were given more as a fashion than from experience. Rossbach had shown that squills, ipecac, and other agents of a similar kind so often given for coughs were really without any expectorant effect, and that only apomorphine had such an action. He believed the chloral, morphine, and hydrocyanic acid which Dr. Thompson often combined with his linseed-oil emulsion were the really efficient ingredients.

Dr. J. O. Tansley enumerated conditions in the auditory apparatus, especially the presence of plugs of wax or bits of paper, etc., in the external auditory canal, which produced coughing.

Dr. T. Darlington, of Kings Bridge, testified to good results which he had for some years past seen obtained in bronchial coughs by doses of pure linseed-oil. It was a well-known and trusted remedy in the repertory of many old nurses and housewives, and of its potency his own experience made it impossible for him to doubt.

Malaria caused many coughs, and these yielded to quinine. The laborers in the tunnels of the new Croton aqueduct frequently suffered from cough due to the fumes from the explosion of dynamite.

Dr. Thompson, in closing the discussion, replied to Dr. Jacobi that he suspected a hacking cough due to irritation of enlarged bronchial glands when he found increased bronchial breathing in some spot between the scapulæ and the expectoration was free from pus. The irritation of the pneumogastric was apt at the same time to cause vomiting, palpitation, or aphonia, with perhaps ulcerative inflammation of the vocal cords.

To Dr. Robinson he would reply that an oil emulsion seemed to be at least a practical if not a scientific prescription. He had seen it relieve coughs which throat specialists had failed to benefit.

## NEW YORK STATE MEDICAL ASSOCIATION.

(*Concluded from page 78.*)

**Officers for the Ensuing Year.**—The following officers were elected: President, Dr. William T. Lusk, of New York; vice-presidents, Dr. S. H. French, of Amsterdam, Dr. R. C. McEwen, of Saratoga Springs, Dr. E. Lester, of Seneca Falls, and Dr. T. D. Strong, of Westfield.

**Address in Medicine—"Medical New York in 1800."**—Dr. John Shrady, of New York, read an interesting paper with this title, which recalled at the outstart the social and political conditions of New York city in the year 1800. There were then in the city eighty-five physicians. Sketches of a number of the more prominent of them were given. As regarded the practice of the day, not much had come down to us. General laws based upon what were called general principles had been given the burden of responsibility, disease being regarded as an entity. It was curious to observe how opinion had retroceded to the doctrine of Boerhaave that the acrimony of the fluids as a disturbing cause required to be neutralized by chemical remedies. It was this which had brought calomel into general use. It was essentially the same idea which had crowned its chemical cousin as well as itself with later honors in our own day. For their plethora and depraved humors we had almost equivalent new names. They recognized a certain power, although the form was unknown. Could we say that they had no vision because both sides of the shield were not seen?

**Mechanism of Posthumous or Post-mortem Inversion of the Uterus after Somatic Death.**—Dr. Isaac E. Taylor, of New York, read a paper bearing this title. He opened by remarking on the fact that the fœtus is cast off from the dead body of the mother after the respiratory movement and circulation have completely ceased. This constituted somatic or posthumous death. Furthermore, rupture, as well as inversion, more or less complete, had from time to time occurred. Three theories had been advanced to account for this posthumous delivery and inversion of the uterus: 1. Spasm of the uterus or rigor mortis. 2. Decomposition of the tissues and fluids in the abdomen and the evolution of gases. 3. Contraction of the uterus from muscular irritability which ensued after death. Physiology had established that muscles do not lose their irritability immediately after death, but gave no information as to why the muscles of the uterus, powerless or inert at the time of death, should after death, with such remarkable energy, deliver the child, much less how that force should turn the uterus inside out. The uterus after such a posthumous birth had been found as perfectly contracted as after a normal labor. It was known that the uterus was the last of the vital organs to undergo decomposition after death, often retaining for months its color, form, and consistency of structure.

As to the theory of rigor mortis causing the extrusion of the child, it was hard to suppose that it could affect the uterus alone and not the vulva and vagina or the rest of the body, or that a spasm should last longer in the uterus than in the passages through which the child must come.

As to the second theory of gaseous pressure, it was enough to remember that decomposition did not begin till several days after death, and always after the departure of the rigor mortis, when all irritability of the muscles would be gone. The delivery of the child would then have to be effected by the pressure of gas on the uterus alone.

With the third theory of a contraction of the uterus after death sufficient to expel the child the reader dealt at length. He cited Arbiter, who reported in 1862 that one hour after a woman had died undelivered he had extracted a child by version, had taken out the placenta, and had then seen the uterus contract firmly to the size natural to it after normal labor.

Several authentic cases were related where posthumous delivery and inversion of the uterus had been recorded. In a case described by Braxton-Hicks the contraction of the inverted uterus was so firm as to defy all efforts at reduction. He concluded on clinical grounds that organic action became concentrated in the uterus after death, and that contraction of the uterus was the sole motor element in producing birth of the child.

As to the detail of this mechanism he reviewed the established facts: 1. That the body and fundus of the uterus contain the long muscular fibers which alone furnish the propelling power for delivering the child. 2. That they terminate at the junction of the body and cervix, and have no power to pull back or expand the latter. 3. That their nerve-supply is entirely from the sympathetic system. 4. That the cervix and os are chiefly composed of circular contractile fibers and non-contractile elastic fibrous tissue. 5. That they are governed by the cerebro-spinal or reflex system of nerves.

He concluded that in a posthumous delivery, the cerebro-spinal system being dead, the cervix furnished no intermittent resistance to the action of the fundus, which by a single continuous effort drove the child out and carried itself into complete inversion. The cervix was infolded first, then the body, and the fundus appeared last.

Inversion might occur in life, beginning by indentation of the fundus resulting from traction on the cord and pressure of the intestines due to the action of the diaphragm and abdominal muscles. But other conditions were present in posthumous deliveries.

Dr. C. A. Leale, of New York, thought the paper might have an important bearing on medico-legal questions connected with the inheritance of property, where, if it were established that the child died after the mother, the property would pass through it to the husband, but otherwise to the legal heirs of the wife.

**Traumatic Gangrene.**—Dr. T. H. Manley, of New York, read a paper with this title, in which he concluded: 1. That the causes of gangrene must lie beyond a loss of circulation, and were due to spreading degenerations in the nervous system. 2. That antisepsis alone was not enough to combat the condition. 3. That diet and general conditions were to be very carefully regulated. 4. That mercurials in external application, but also in small internal doses, were of great benefit. 5. That while recovery had, without doubt, taken place spontaneously in a few instances, amputation should be generally relied on when we were convinced, by its icy coldness, crackling, discoloration, and puffiness of the skin, etc., that death had occurred in a part. 6. That bloodletting in the vicinity of badly swollen parts often gave relief. 7. That in spreading moist gangrene resulting from violence an early operation was best, not waiting for a line of demarkation to appear. 8. That it was not always necessary in such cases to cut entirely above the affected tissues if a joint could be saved by retaining some of the latter.

**Discussion on Puerperal Septicæmia.**—Dr. C. C. Frederick, of Erie county, opened the discussion with a paper propounding a number of questions on which subsequent papers were based.

Dr. E. D. Ferguson, of Troy, read a paper in answer to the questions: 1. Is there a special febrile disease peculiar to the puerperal woman, or are the various forms of puerperal fever the result of septic infection similar to or identical with septicæmia? 2. What ætiological relations exist between the zymotic diseases and some forms of puerperal febrile diseases, and in what manner are the zymotics modified by implantation upon the puerperal state? He said, admitting the possibility of a puerperal fever *sui generis*, it would still be possible for the puerperal woman to have other types of fever, or one identical with septicæmia. But he had concluded that there was no specific febrile disease for the following reasons: 1. It was impossible to show that there was any infectious material to which the parturient woman alone was susceptible, or that puerperal fever had clinical features peculiar to it. 2. The condition of the body in infectious diseases, such as measles and scarlatina, was known to determine the greatest variations in the virulency of an attack where the poison was the same. 3. There was no evidence pointing to an essential change in the nature of measles or erysipelas when ingrafted in the tissues of the puerperal woman. He said it was not always easy to believe that puerperal fever was the result of infection at all. Semmelweise, over thirty years ago, had ascribed the disease to the absorption of decomposing animal matter, but he recognized two sources of infection: 1. Where it was introduced into the body from without through abrasions. 2. Where it was developed within the patient's body. We believed to-day that inflammation in connective tissue, with pus-production, depended on infection from without. Now, many cases of puerperal fever had no signs of local inflammation, no local pain or change in the lochia, even up to the time of death, from pyrexia and exhaustion. Again, he had seen a marked fever produced by tamponing with antiseptic material the vagina of a pregnant woman suffering from hæmorrhage, where not the least local inflammation had been produced. This fever promptly subsided when the tampon, blood clot, etc., were removed, and without irrigation. It seemed like a "urethral fever" resulting from the passage of a clean catheter. Of late years we were learning that physiological ferments, the overproduction or retention of leucomaines, as well as irritations of sensitive mucous membranes, might all give rise to fevers. The occurrence of aseptic fever in transfusion of blood, and after subcutaneous effusions of blood, looked in the same direction.

The reader concluded that even some of the fatal cases might be due to material arising in the patient's own body, though in the majority of instances infection was to be credited with the causation of the fever. As regarded the relation of the zymotic poisons to puerperal fever, he concluded that we should endeavor to distinguish between zymotic diseases complicating puerperal diseases of other origin and those in which the zymotic poison had been the direct exciting cause. This was not always easy, because local pelvic disease did not necessarily result from a local infection, though it commonly did. Mere severity of the zymotic disease in the puerperal woman did not imply that the genital tract had been the point of entrance unless there were local inflammations.

Erysipelas and diphtheria were known to be capable of producing puerperal fever with the ordinary local developments. Of measles less was known, but scarlet fever he knew capable of causing puerperal fever when locally infected, both with and without local inflammations. The virus of small-pox could undoubtedly produce them, but whether by direct contamination or the products of pustular inflammation was uncertain. There was no evidence to show that the poisons of typhoid or malaria had any special influence in the production of that complex of symptoms termed puerperal fever.

As regarded the manner in which the zymotic diseases were modified by implantation in the puerperal state, it appeared that the gravity of the disease was increased without its essential character being changed. If imparted by a puerperal patient to children or men, it reproduced itself as the ordinary scarlet fever or erysipelas, as the case might be. Erysipelas affecting the face was not notably worse in a puerperal woman.

# Book Notices.

## BOOKS AND PAMPHLETS RECEIVED.

Text-book of Medical Jurisprudence and Toxicology. By John J. Reese, M. D., Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania, etc. Second Edition. Revised and enlarged. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. xvi–9 to 646. [Price, $3.]

Hand-book of the Diagnosis and Treatment of Diseases of the Throat, Nose, and Naso-Pharynx. By Carl Seiler, M. D., Instructor in Laryngology and Lecturer on Diseases of the Upper Air-Passages in the University of Pennsylvania, etc. Third Edition. Thoroughly revised and greatly enlarged. Illustrated with Two Lithographic Plates containing Ten Figures and One Hundred and One Wood Engravings. Philadelphia: Lea Brothers & Co., 1889. Pp. xii–13 to 373. [Price, $2.25.]

Transactions of the Association of American Physicians. Third Session, held at Washington, D. C., September 18, 19, and 20, 1888. Volume III. Philadelphia: Printed for the Association. Pp. xix–404.

Hand-book of the Diagnosis and Treatment of Skin Diseases. By Arthur Van Harlingen, M. D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Second Edition. Enlarged and revised. With Eight Full-page Plates and other Illustrations. Philadelphia: P. Blakiston, Son & Co., 1889. Pp. xv–17 to 410. [Price, $2.50.]

The Skin Diseases of Infancy and Early Life. By C. M. Campbell, M. D., C. M., Edin., etc. London: Baillière, Tindall, and Cox, 1889. Pp. xii–202.

The Functions and Disorders of the Reproductive Organs, in Childhood, Youth, Adult Age, and Advanced Life, considered in their Physiological, Social, and Moral Relations. By William Acton, M. R. C. S., Late Surgeon to the Islington Dispensary, etc. Seventh Edition. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. xii–263. [Price, $2.]

Transactions of the American Gynæcological Society. Volume XIII. For the Year 1888. Philadelphia: William J. Dornan, 1888. Pp. 8–13 to 502.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States for the Fiscal Year 1888.

Problems in regard to Yellow Fever and the Prevention of Yellow-Fever Epidemics. By Jerome Cochran, M. D., State Health Officer of Alabama. [Reprinted from the "Transactions of the American Public Health Association."]

Contributions to the Anatomy and Physiology of the Thymus Gland. By A. Jacobi, M. D., etc. [Reprinted from the "Transactions of the Association of American Physicians."]

Electrolysis: its Value in Diagnosis as well as in Treatment of Intra-abdominal and Intra-pelvic Tumors by the Aid of a New Instrument. By Eugene C. Gehrung, M. D., St. Louis, Mo. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

The Biological Cell. An Argument. By L. Harrison Mettler, A. M., M. D., etc. [Reprinted from the "Medical Register."]

Notes on Horned Mammals, with some Observations upon Policerate or Multiple-horned Sheep. By R. W. Shufeldt, M. D., C. M. Z. S. [Reprinted from the "Journal of Comparative Medicine and Surgery."]

Biennial Message of Richard J. Oglesby, Governor of Illinois, to the Thirty-sixth General Assembly, January 9, 1889.

## Miscellany.

**Antipyrine in Headache.**—In order to obtain the beneficial effects of antipyrine when taken for the relief of headache, the patient should remain quiet for at least half an hour after the administration of the dose.

**Bees as Sugar Testers.**—Though to the human palate cane-sugar, beet-root sugar, and saccharin are pretty much alike, it is said that bees are much more discriminative. They will have nothing to do with either of the last-named two substances. Glycerin they will take, only, however, if it be pure.—*Lancet.*

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending February 1st:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y. | Jan. 19. | 1,551,244 | 779 | .. | .. | .. | .. | .. | .. | 4 | 54 | 50 | 31 | 9 |
| New York, N. Y. | Jan. 26. | 1,552,116 | 708 | .. | .. | .. | .. | .. | .. | 9 | 55 | 40 | 22 | 12 |
| Philadelphia, Pa. | Jan. 19. | 1,040,245 | 382 | .. | .. | .. | .. | .. | .. | 8 | 14 | 11 | .. | 2 |
| Philadelphia, Pa. | Jan. 26. | 1,040,245 | 355 | .. | .. | .. | .. | .. | .. | 10 | 9 | 12 | .. | 4 |
| Brooklyn, N. Y. | Jan. 26. | 814,505 | 360 | .. | .. | .. | .. | .. | .. | 1 | 11 | 33 | 14 | 6 |
| Baltimore, Md. | Jan. 26. | 500,343 | 157 | .. | .. | .. | .. | .. | .. | 5 | 2 | 2 | .. | .... |
| St. Louis, Mo. | Jan. 19. | 440,000 | 162 | .. | .. | .. | .. | .. | .. | 4 | 2 | 10 | 3 | 4 |
| St. Louis, Mo. | Jan. 26. | 440,000 | 163 | .. | .. | .. | .. | .. | .. | 3 | 2 | 7 | 4 | .... |
| San Francisco, Cal. | Jan. 18. | 330,000 | 116 | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | 2 |
| Cincinnati, Ohio. | Jan. 19. | 255,139 | 102 | .. | .. | .. | .. | .. | .. | .. | 2 | 7 | .. | 1 |
| Cincinnati, Ohio. | Jan. 26. | 255,139 | 101 | .. | .. | .. | .. | .. | .. | 7 | 1 | 6 | .. | .... |
| Cleveland, Ohio. | Jan. 5. | 235,000 | 73 | .. | .. | .. | .. | .. | .. | 8 | .. | 4 | .. | .... |
| Cleveland, Ohio. | Jan. 12. | 235,000 | 54 | .. | .. | .. | .. | .. | .. | 5 | .. | 2 | .. | ... |
| Detroit, Mich. | Jan. 19. | 230,000 | 57 | .. | .. | .. | .. | .. | .. | .. | 1 | 4 | .. | 1 |
| Detroit, Mich. | Jan. 26. | 230,000 | 60 | .. | .. | .. | .. | .. | .. | 2 | 1 | 2 | .. | .... |
| Pittsburgh, Pa. | Jan. 26. | ........ | ...... | .. | .. | .. | .. | .. | .. | 1 | 3 | 3 | .. | 1 |
| Milwaukee, Wis. | Jan. 26. | 200,000 | 64 | .. | .. | .. | .. | .. | .. | 1 | 4 | 2 | .. | .... |
| Minneapolis, Minn. | Jan. 26. | 180,000 | 37 | .. | .. | .. | .. | .. | .. | 3 | 1 | 3 | 1 | ... |
| Kansas City, Mo. | Jan. 26. | 180,000 | 34 | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .... |
| Newark, N. J. | Jan. 22. | 179,000 | 72 | .. | .. | .. | .. | .. | 5 | 5 | 1 | 8 | .. | .... |
| St. Paul, Minn. | Jan. 14. | 175,000 | 35 | .. | .. | .. | .. | .. | .. | 3 | .. | 3 | 1 | ... |
| Providence, R. I. | Jan. 19. | 123,000 | 47 | .. | .. | .. | .. | .. | .. | 2 | .. | 2 | .. | 1 |
| Providence, R. I. | Jan. 26. | 123,000 | 48 | .. | .. | .. | .. | .. | .. | 2 | 2 | 2 | .. | 1 |
| Rochester, N. Y. | Jan. 19. | 120,000 | 37 | .. | .. | .. | .. | .. | .. | .. | .. | 4 | .. | 1 |
| Rochester, N. Y. | Jan. 26. | 120,000 | 43 | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 1 | 2 |
| Richmond, Va. | Jan. 21. | 100,005 | 34 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .... |
| Denver, Col. | Jan. 25. | 96,000 | 36 | .. | .. | 1 | .. | .. | .. | 1 | .. | 1 | .. | .... |
| Toledo, Ohio | Jan. 18. | 80,000 | 22 | .. | .. | .. | .. | .. | .. | 1 | 1 | 4 | .. | .... |
| Toledo, Ohio | Jan. 26. | 80,000 | 27 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .... |
| Camden, N. J. | Jan. 17. | 70,000 | 16 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | ... |
| Nashville, Tenn. | Jan. 19. | 65,153 | 24 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Nashville, Tenn. | Jan. 26. | 65,153 | 17 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Fall River, Mass. | Jan. 19. | 65,000 | 25 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Fall River, Mass. | Jan. 26. | 65,000 | 30 | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .... |
| Charleston, S. C. | Jan. 26. | 60,145 | 29 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | .... |
| Lynn, Mass. | Jan. 26. | 50,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Manchester, N. H. | Jan. 19. | 42,000 | 16 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Erie, Pa. | Jan. 26. | 42,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me. | Jan. 26. | 40,000 | 18 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Galveston, Texas. | Jan. 11. | 40,000 | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Davenport, Iowa. | Jan. 26. | 33,715 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .... |
| E. Saginaw, Mich. | Jan. 26. | 33,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Auburn, N. Y. | Jan. 26. | 26,000 | 11 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .... |
| Haverhill, Mass. | Jan. 19. | 25,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass. | Jan. 26. | 25,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newport, R. I. | Jan. 24. | 22,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newton, Mass. | Jan. 26. | 21,105 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | 5 | .. | .... |
| Keokuk, Ia. | Jan. 26. | 16,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Pensacola, Fla. | Jan. 19. | 15,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Pensacola, Fla. | Jan. 26. | 15,000 | ...... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**The Boston Medical Library Association.**—At a special meeting, held on Tuesday, January 29th, Dr. Oliver Wendell Holmes presented his library of medical books to the association. The collection comprised 968 volumes, the oldest of which was written in the year 1490 and the latest in 1887. Thus the library covers the space of four centuries, and contains many rare and valuable illustrated works on anatomy. In offering the collection to the association, Dr. Holmes said: "These books are dear to me; a twig from some one of my nerves runs to every one of them, and they mark the progress of my study and the stepping stones of my professional life."

**The New York Academy of Medicine.**—At the next meeting of the Section in Surgery, on Monday evening, the 11th inst., Dr. V. P. Gibney will read a paper entitled "Reproduction of the Entire Patella after Necrosis," and show the patient; Dr. A. M. Phelps will present cases of resection of the knee joint; and cases will be presented by Dr. R. T. Morris.

At the next meeting of the Section in Orthopædic Surgery, on Friday evening, the 15th inst., Dr. Henry Ling Taylor will read a paper on "The Prevention and Treatment of Crural Abduction."

### ANSWERS TO CORRESPONDENTS.

*No. 251.*—It is done for the relief of prostatic enlargement. The details of the operation were described on page 389 of the "New York Medical Journal" for October 6, 1888.

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Lectures and Addresses.

# ON CURRENT DIFFERENTIATION.

A LECTURE DELIVERED AT THE
NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.
*January 2, 1889.*

By A. D. ROCKWELL, M. D.,
PROFESSOR OF ELECTRO-THERAPEUTICS AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

Reported by H. S. CLARK, M. D.

A frequent question, and one somewhat difficult to answer without qualification, is: Which of the two forms of dynamic electricity is the more useful in practice? The most satisfactory solution of the question is to possess apparatus for both forms and carefully study the therapeutic relations of each current.

If the question is pressed, then it may be said that, as generally used, the galvanic current has a much wider range of usefulness in medicine and surgery than the faradaic. In other words and generally speaking, diseases and symptoms of disease that are circumscribed and local indicate, as a rule, the galvanic rather than the faradaic current. If, however, a broader view of the remedial action of electricity be taken, and its powerful constitutional tonic influence recognized, when administered by the methods demanded for the production of such effects, it is quite another matter, and the faradaic current assumes an importance which any form of local use fails to give it.

It may be said, therefore, that if the general practitioner will make himself acquainted with general faradization, and take the time and trouble to apply it with the thoroughness that its successful use demands, he will accomplish quite as much with the faradaic as with the galvanic current, although in quite a different class of cases.

In discussing to-day the relative efficiency of the two forms of dynamic electricity in medicine I propose: 1. To consider the measure of their agreement and disagreement in their physical and physiological activities. 2. To state some of the differential indications for the use of the currents in the treatment of disease, and to demonstrate the truth and practical value of some of these points of differentiation clinically. The first of these considerations is necessary to an intelligent appreciation of the second, for the more thoroughly one studies electro-therapeutics in all its relations, the clearer it becomes that the real scientific basis for the use of electricity in medicine and surgery is found in its physics and physiology, and far more in its physics than in its physiology.

Now, electricity, however generated, whether through chemical action, through friction, or induction, and however modified by its passage through any resisting media, is electricity still. Both currents, the faradaic and galvanic, are obedient to the law of Ohm, and while there is a wide difference in the degree of their physical and physiological properties, these are in kind essentially the same.

Both currents are capable of producing electrolytic effects; and this I readily demonstrate to you with the current from the primary coil of this faradaic apparatus. The action of this current on a solution of salt and water is exactly the same in kind as the action of the galvanic current. Both currents also evolve light and heat, and the bright deflagrating spark caused by the electricity as modified by the thick, short coil of wire is even more brilliant and disintegrates metal more readily than the current direct from many cells. Both currents will electroplate, and by some of the giant magneto-electric apparatus this is done on an enormous scale. I have here a milliampèremeter, an instrument of precision which is now indispensable in the use of the galvanic current, and yet, by connecting the posts with the poles of a faradaic apparatus, you observe an appreciable deflection of the needle, and this deflection very naturally becomes still more marked if the current from the primary coil is thus utilized.

This power of the faradaic current to cause, like that of the galvanic, electrolysis and deflection of the needle, is so inferior in degree to the power of the faradaic current that we can not utilize the former in electro-surgery, nor is the galvanometer available to measure its strength. You thus have visibly demonstrated that, however differently generated, or however modified by the medium through which it passes, the various forms of electricity are only different manifestations of one great force.

Physiologically, we find the agreement between the effects of the two currents quite as close as when physically considered. The phenomenon of electrotonos, to be sure, has been demonstrated only as it relates to galvanism, but it is the common experience that, even with the faradaic current, the positive pole is the more calming and the negative the more stimulating. Applied *directly* to the brain or spinal cord, both currents excite muscular contractions, and about in the same degree, similar results having been obtained in the well-known experiments of Fritsch and Hitzig, who used galvanism alone, and Ferrier, who used faradism.

The result of *direct* electrization of the sympathetic nerve is a change in the caliber of the cerebral blood-vessels, and the only difference in the action of the two currents is the greater rapidity with which effects follow the application of the galvanic.

The nerves of respiration are affected in about equal degree by both currents, and even in their action on the nerves of special sense the close relationship of the two is unmistakably evident. You can not, as a rule, in a healthy person, or even in one that is sick, so excite the optic or gustatory nerve by the faradaic current as to call into activity the vital functions of these nerves. There are, however, some exceptions to this as exemplified in certain hysterical and neurasthenic cases where there exists an unusual susceptibility of the nervous system. In such cases the faradaic current has occasioned not only the appearance of flashes before the eyes and a metallic taste, but the auditory nerve itself has been known to respond to its influence.

These examples are quite sufficient to show that the action of the two currents is so similar as to prove them substantially the same in kind, but at the same time so widely do they differ in the degree of their physical and physiological power that it is often practically equivalent to a difference in kind, rendering one current inferior or superior to the other in a most remarkable degree, according to the special indications of individual cases.

In view, therefore, of the superiority of the galvanic over the faradaic current as relates to its physical and physiological energies, it seems hardly necessary to say that the former is to be used when we wish to act with special electrotonic and electrolytic power on the brain, spinal cord, sympathetic, or any part of the central or peripheral nervous system. We use it when we wish to produce contractions in paralyzed muscles that refuse to respond to the faradaic current, and in electro-surgery when we desire to produce, through electrolysis and cauterization, the destruction or absorption of morbid products, and the coagulation of blood. We use the faradaic current to act mildly (probably for the most part through reflex action) on the brain, spinal cord, sympathetic, or any part of the central or peripheral nervous system. We use it to excite muscular contractions whenever the muscles are not so much diseased as to be unable to respond to it, and to produce those strong mechanical effects through which, in great measure, are obtained the remarkable constitutional tonic influences now everywhere so well recognized.

I am fortunate in being able to show you to-day two cases that illustrate a point in current differentiation of which I have spoken before, and which I regard as of considerable value.

I refer to the effects of pressure as indicating the kind of electricity most likely to prove of service in the different forms of pain for which relief is sought.

Without attempting to discuss the relation of pain to pathological states or its different forms and locations, allow me to call your attention to the well-attested fact that, of all innoxious remedies, electricity is the most powerful agent in nature for the relief of pain. Not that it never fails, for this it does often enough, but its failures would be far less frequent and its reputation along this line more firmly established if the differential indications for its use were more carefully considered.

It is a common observation that, in many forms of pain and so-called neuralgias, firm and equal pressure over the affected parts causes no discomfort whatever, and frequently affords marked temporary relief. In other cases the parts are sensitive to all external impressions, and pressure or rubbing decidedly aggravates the existing pain.

Neuralgia is undoubtedly, as a rule, represented by this last class of cases, while the former class, where pressure relieves and where the pain occupies certain areas and runs seemingly in the direction of certain nerves, must be classed among the hysterical and pseudo forms of neuralgia.

In true neuralgia the pains invariably can be definitely mapped out along the lines of certain nerve-trunks, and in these cases the galvanic current is, almost without exception, indicated, and not the faradaic. In the hysterical and false forms of neuralgia, however, the indications for the faradaic current are almost as invariable as they are for the use of the galvanic in true neuralgia. I say almost, for we do occasionally find cases of the pseudo and hysterical forms of neuralgia where the affected parts are not only sensitive to pressure, but also unusually sensitive to the effects of electricity, affording additional proof of the general correctness of the statement that painful parts that are sensitive to pressure indicate the galvanic and those that are insensitive to pressure call for the faradaic current. Cases of widely diffused and superficial neuralgic pains with sensitiveness to pressure, as well as those belonging to the true type of neuralgias, are best treated by the galvanic current alone.

I have now under my care three cases that well illustrate this practical point in electro-therapeutics, and two of them have kindly consented to come here for your instruction.

The history of the first case is briefly this: Six years ago he began to suffer pain in the head, diffused quite widely over the vertex but seldom affecting the forehead or occipital region, and up to the present time he has been able to find no remedy that has afforded more than temporary relief. His general health is fair, and careful examination has failed to detect anything specially abnormal in the urine. In the morning he is quite comfortable, but about 2 P. M. the pain begins and continues until he goes to bed, when he is benefited by sleep, as he is also by outdoor exercise, and frequently also by a hearty meal and cold-water applications. When entirely free from pain the part is not more than ordinarily tender, but while suffering the slightest touch is disagreeable, and any form of pressure or rubbing becomes decidedly painful.

Here, then, is a case where, if electricity is to be used at all, we must decide between its different manifestations. I have not the slightest doubt but that the faradaic current would have altogether failed to relieve him, while, at the same time, it might have aggravated the symptoms. The galvanic current, on the contrary, as he will be glad to assure you, has, during the few weeks that the applications have been made, resulted in a decided mitigation of his symptoms, and we confidently expect complete recovery.

I will now treat him by the method of central galvanization—placing one pole (the negative) over the solar plexus, and the positive on the crown of the head, the seat of pain. I begin with five milliampères of current and gradually increase it until twenty is reached—a strength seldom necessary to exceed in these cases. He says that the metallic taste is strongly marked, and the saliva flows freely, but there is no pain, because, as you observe, my electrodes are large and soft and applied firmly and with equal pressure. By decreasing the current as gradually and carefully as it was increased, all interruptions are avoided, and the treatment concluded without disagreeable flashes of light or shocks.

The second case is also a private patient and is a good illustration of the other side of the question.

The pains first began to trouble him three years ago, and so severe were they that he gradually formed the morphine habit, taking finally as high as eight and ten grains a day. From this habit, however, he at last succeeded in breaking away, and since August last has not indulged in it.

The pain is located in the forehead and temples, being at times more severe on one side and then again on the other. It comes on two or three times a week, and, unlike the first case, all forms of activity aggravate it.

Unlike it, also, firm pressure and rubbing afford grateful relief, and the degree of insensitiveness to electrical influence (faradism) is quite remarkable. You are perhaps aware how exceedingly sensitive the forehead, and indeed all bony prominences, are to the induced current of electricity; but in this case the strength that is applied without discomfort is many times greater than any one in this room probably could endure.

The faradaic current is as strongly indicated here as was the galvanic in the other case, and I am glad to say that it has been followed thus far by almost equally good results.

I use my hand in applying the faradaic current to the head, because no electrode that human skill can devise can equal the hand in flexibility and power of adaptation to uneven and painful areas, and, as I now apply it, the current is so strong that only long practice enables me to manipulate the parts successfully. The significance of this statement is fully appreciated by the gentleman who has just now attempted the application.

While the galvanic current is always the same, however generated, the faradaic current differs widely as to its quality according to the form of the helix and the adjustment of the rheotome. There are therefore important points of difference in the physical and physiological, and therefore in the therapeutical, effects of the faradaic current. I do not refer so much to the ordinary separate-coil apparatus which is described in most text-books on physics, but to what may be termed the continuous-coil apparatus.

Both of these have been described in detail on a former occasion, and I here call your attention only to the fact that in the case under treatment I am using the current from the whole system of coils (primary—first, second, and third induction), which in its general toning and sedative effect is far superior to any of the others.

## Original Communications.

# A PLEA FOR THE ACTIVE TREATMENT OF PUERPERAL ENDOMETRITIS BY MEANS OF THE CURETTE.*

By EGBERT H. GRANDIN, M. D.

Progress in matters obstetrical is relatively slow compared with what obtains in other branches of medicine. When we consider the immense strides of the sister science, gynæcology, during the past decade, the inquiring mind is apt to ask, Why does obstetrics stand still? for, if we except the advances in the direction of asepsis, very little has been added to the methods of the past, and very little has been altered. And yet obstetrics has not reached the stage of an exact science as yet; there is room for advance all along the line. It is a curious fact that in other departments of medicine new methods are often accepted without much scrutiny, are followed with enthusiasm, almost blindly as it were, until eventually sober judgment, born of experience, teaches that the method is worthless. Witness the fate of the cures for phthisis, which spring into light like the mushroom, are heralded the world over, only to die as speedily as they were born. In obstetrics the reverse holds to such an extent that it is with the greatest difficulty that certain minds can be lifted from the ruts of centuries toward the acceptance of views which the large majority of practical accoucheurs have tested and have proved good. Let the gynæcologist report a series of successful operations for the removal of the variously diseased appendages, and as soon as the operation is accepted as good, the inexpert as well as the expert performs it. In obstetrics, on the other hand, progress is so slow that, even after the lapse of years, opposition of no uncertain nature meets well-grounded methods. Witness the discussion still of the value of the primary operation for the repair of the lacerated perinæum, and the divergent views in regard to the management of the third stage of labor.

This tendency in obstetrics is in some respects a good one, but in others it is open to objection. Methods which deal with the phenomena of labor and of the puerperal state should indeed be well tested before acceptance, but this test should never be allowed to go to the extent of characterizing steps which are different from the ordinary as approximating that meddlesomeness which, rightly interpreted, is bad. If improvement on the methods of our fathers' time is possible in other branches of medicine, so also is it in obstetrics. Every day adds to the knowledge of the obstetrician who carefully watches his cases, and, sooner or later, the fact may become impressed upon him that his early training has been faulty, and that he can improve over his early practice. He may even attain that stage when he is willing to admit that judicious meddlesomeness may be good—a conclusion which some men reach only after having been in practice a decade, while others, even on their deathbed, will not recant the teachings of their youth.

These prefatory remarks aim at emphasizing the fact that we are too much inclined in matters obstetrical to follow along the ruts of centuries lest we be open to the charge of meddlesomeness. Conservatism, respect for tested methods—these are good traits, but I question if they may not be carried too far. In this spirit I enter upon a plea for a method which, while not a strictly novel one, does not by any means in its argument represent a universal practice, and by some, indeed, it may be charged with verging on that meddlesomeness of which I have already spoken.

At the outset I desire to recall briefly the state of the interior of the uterus immediately after delivery and for a few days thereafter. The hypertrophy of all the elements of the organ which has accompanied the process of gestation must alter into a retrograde metamorphosis in order that the uterus may return approximately to the condition characteristic of the non-gravid organ. This retrogression is secured by fatty metamorphosis of the newly-formed elements. The cavity of the uterus is filled with blood-clots of greater or less size, according to the degree of contraction secured, and with epithelial *débris;* the venous sinuses become closed by thrombi; a surface, varying in depth from one to two millimetres, resembling a false membrane, has to separate, break up, and be expelled; the site of the placenta in particular is rough, uneven, and jagged, the projecting portions being due in great part to the thrombi, which gradually occlude the sinuses. In brief, then, the interior of the uterus resembles a large wounded surface, differing only from a surgical wound in that it is physiological, not caused by disease. Ample provision exists in the system of the puerpera for the due absorption and expulsion of the products of retrograde metamorphosis. During the puerperium these vast degenerative and regenerative changes occur without special disturbance of the health equilibrium, and the chief part of the process is completed within seven to eight days. If now, from some cause or other, a septic cause in particular, this normal process of retrograde metamorphosis is interfered with or arrested, then the wound in the uterus alters even as does a wound on the surface of the body under the like conditions. The fat metamorphosis is checked or replaced by a necrosis; the cellular elements, the thrombi, etc., take on the so-called purulent degeneration. This process, starting from any point of the endometrium, although usually from the placental site, since there is the greatest wound, extends progressively until it involves the whole surface of the endometrium. Then, instead of finding the normal appearances I have sketched, the mucous membrane, down to and often including the muscularis, is converted into a mass of pus-cells and pus detritus. The conditions for absorption into the system are the best possible; during the time requisite for the shedding and expulsion of this mass the blood-vesselsand lymph-vessels take a greater or less portion into the system; the health equilibrium is disturbed, is disorganized, the puerpera suffers from putrid infection with all its possible local and systemic disturbances. From the third to the seventh day post partum the normal retrograde changes in the uterus are most active, and during the same period do the pathological changes announce themselves.

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* Read before the Medical Society of the County of New York, December 24, 1888.

Such are the local pathological phenomena of puerperal endometritis. When the surgeon, after amputation of a limb, finds that the wounded surface is not covered with healthy granulations, but with a dirty-gray pseudo-membrane which he calls the slough, his aim is, as soon as possible, to get rid of the slough before the process has extended deeper, before his patient's system is poisoned. He removes what portions he can by his forceps, he furthers the separation of the adherent portions by poultices, he is not at peace till he sees again the red sprouting granulations which foretell kindly union. He is not satisfied with simply washing off this surface with boiled water or with antiseptic washes, nor, we will say, with sprinkling iodoform on it. Now, the uterine wound which has taken on an unhealthy process is not strictly analogous to the surgical wound for the reason already noted, and for the further reason that the decidual surface, which has been converted into a slough, is at the end of a few days largely loosened, but slightly adherent, owing to the fact that preparations for its disintegration normally set in even ante partum. We do not need to poultice this foul wound, therefore, even if we could; ought we to rest satisfied with simply washing it with greater or less frequency, and with possibly supplementing this by the insertion of a pencil of iodoform? Such is the question which my paper aims at answering.

Before proceeding to the consideration of the essential point of my paper—the treatment of puerperal endometritis—it will be useful to state very briefly the ætiology and symptomatology of the condition.

The doctrine of to-day is that all the essential deviations from the normal in the puerperal state are due to infection in one way or another of the puerperal tract. This explanation is even held to be valid for those very infrequently observed instances where, from the suddenness of the access of the symptoms after delivery, it is thought probable that infection occurred before labor. The germ or germs which are carried into the organs of generation by unclean touch or instrument, or which enter through some trifling abrasion, notwithstanding every possible rigid precaution, are the essence of the phenomena which go to form the clinical picture of septicæmia. Whether the future will impress with its seal the truth of this almost uniformly accepted doctrine or not I will not speculate about now. Let it be sufficient for my present purpose to state that, in the vast majority of instances, the septic process is localized at the outset. The exception to this statement is furnished by those very rare cases to which French writers have applied the apt term of *septicémie foudroyante.* In the form of sepsis of which I am speaking the endometrium is the site of localization of these germs. In whatever way they reach the endometrium, the first stage of development of the septic process is limited to that place, and hence we have a cogent reason for attacking the process in its cradle before the active vessels—lymph and circulatory—have sucked up the poison and carried it beyond the reach of our local measures. An adherent portion of placenta, however minute, or shreds of membrane, insignificant though they be, may prove the nidus of inoculation whence the septic degenerative process may quickly spread over the entire endometrium. If such foci of germ attraction are not present, some part of the endometrium whose vitality, we will say, is at a low ebb, affords a breeding place for the germ, and thence, again, the degenerative process invades progressively the entire endometrium. Beyond these broad statements it is useless to theorize. There are still many problems in pathological obstetrics to be solved, and not the least of these is the why and the wherefore of degenerative septic changes in certain cases.

Fortunately for the woman, the symptomatology gives us a very early clew at the very threshold, so to speak, of puerperal endometritis. The obstetrician, in his practical work, has need of all his senses. As he may be called upon to use his sense of taste occasionally in the estimation of the value of the secretion of the lacteal gland, even so, and as a routine matter, should he exercise his sense of smell. Over and again before the pulse, temperature, general aspect, or indeed change in the lochia suggest an abnormity in the puerperium, the nose may detect the odor of beginning decomposition. This odor, fœtor, slight though it be, of the vulvar dressing, should always awaken our keenest attention, even though often the differential means at our disposal will teach us that its source is not in the uterus.

The two broad facts, then, which I wish to emphasize from the ætiological and symptomatological standpoint are that, at the outset, the septic process may be purely localized in the uterus, and, secondly, that the danger-signal which often precedes other phenomena is fœtor.

To pass at once, now, to treatment, this is naturally divided into prophylaxis and into active local measures.

The first I will dwell upon only briefly, seeing that the main purpose of my paper is to deal with the latter.

I will not go so far as to say that puerperal endometritis should never occur, but I am satisfied that rigid prophylaxis in accordance with the demands of modern obstetrics will reduce the frequency to a minimum. The prophylactic treatment includes attention to all the minute details in the management of the labor and of the puerperal period which so markedly differentiate the obstetric methods of to-day from those of the past. The cardinal principles of prophylaxis are perfect asepsis of the lying-in woman, of her surroundings, of her attendants, patience with the physiological course of the labor—that is to say, no hastening of the stages, except an emergency calls for speedy delivery—and, finally, thorough emptying of the uterus and the securing of due contraction of the organ. I will not dwell here on the importance of asepsis and of patience on the part of the accoucheur. These are axioms too well established to-day. I desire only to lay stress on the necessity of thorough emptying of the uterus, a proposition which is still apparently a debatable one. I would not be understood as affirming that placental remnants or shreds of membrane will necessarily prove sources of septic endometritis, but *they may;* and to avoid this possibility I would assert that it is the duty of the accoucheur, if he is not satisfied that the placenta and its annexa are complete, to remove the remnants at once, and thus close the gates effectually against the chief source of degeneration of the endometrium. Such timely action is not alone easy immediately after the completion of the third stage of labor, because then the genital tract is dilated, but also involves less disturbance and nervous shock than will a resort to the same measure or to the douche a few days afterward, if these remnants should cause septic degeneration of the endometrium. It goes without saying that such manipulation should be followed by one douche, and the remaining essential prophylactic step is the securing and the maintaining of efficient contraction of the uterus.

The opinions which I have just advanced are not novel, but neither are they all generally accepted as justifiable. My own experience has proved them just, however, and not fraught with harm, and personally my mind and conscience are easier if I leave my patient without *débris* in the uterus. Indeed, I am inclined to lay greater stress on the thorough emptying of the uterus than I do, in my private practice, on the selection of one or another antiseptic agent, or the application of one or another antiseptic pad. It is good practice to keep out germs; it is better practice to leave nothing in the uterus which will afford a fertile soil for development in case, notwithstanding all our antisepsis, they effect an entrance.

So much for prophylaxis. If, nevertheless, endometritis develops, what shall we do? I believe I am correct in the statement that the majority of accoucheurs the world over are to-day wedded to the intra-uterine douche. There are a few gentlemen who still believe in and practice expectancy, either from fear of intra-uterine manipulation or because they live in the past instead of in the present, and believe that what was good enough for the physician and the puerpera of a century ago is good enough for those of to-day. Such blind geniuses, fortunately, are birds of a rare plumage, and the consensus of opinion is that when there is certainty of the presence of septic endometritis—that is to say, when extra-uterine septic localization has been carefully differentiated—then the sound practice is to wash out the uterus in order to arrest the degenerative process by removing all that the stream of water can bring away, and in order to kill or to check the development of the germs of putrefaction which the prevalent view of our time teaches are the originators and the maintainers of the process. This douching of the uterus is repeated with greater or less frequency, according to the bent of the individual accoucheur, some resorting to the douche every three hours, others every eight, and others even maintaining that it is called for every one to two hours. In mild cases, two or three douches will suffice to check the septic process or to alter it for the better, but in the majority of instances the douche has to be continued with greater or less frequency for a number of days, occasionally for a week or longer. The material in favor for the douching is a solution of corrosive sublimate varying in strength from 1 to 1,000 to 1 to 6,000. Some obstetricians are in the habit of inserting an iodoform suppository into the uterus after the douche, in the belief that the septic process is thus modified for the better, and less frequent douching is therefore essential.

The foregoing is a fair statement of the prevalent practice. There are objections to it, however, and consequently certain accoucheurs favor more active measures, for reasons which have seemed to me to be good, and which sufficient experience warrants me in maintaining are not only good, but as innocent of harm as is the simplest of any of the obstetric manipulations when performed with the care and the knowledge without which any manipulations may be bad.

The chief objections to the douche may be broadly summarized as follows: 1. It frequently has to be repeatedly administered for a number of days. 2. It is sometimes inefficient even after repeated administration. 3. The antiseptic added to the solution may cause toxic symptoms and even death.

Since the administration of the intra-uterine douche should never be intrusted to the nurse, cases which demand frequent resort to it tax the endurance of the busy practitioner severely. Moreover, notwithstanding asepsis as perfect as we can command, any interference with the genital tract of the puerpera carries with it the risk of the introduction of infectious matter, which, in cases of septic endometritis, is simply adding fuel to the fire. This risk, even though small as an accompaniment of the single douche, is magnified by each additional douche.

That the douche is sometimes inefficient, so that eventually an adjuvant agent has to be resorted to, is a fact, I believe, within the experience of every one. I have myself seen a few instances where, after the lapse of a number of days of douching, the curette was essential in order to remove the mass of putrid *débris* which the stream of water had been unable to dislodge. An experiment of Auvard's may be cited in this connection as a proof of the assertion that the douche is occasionally inefficient. Taking the largest Barnes's bag, which in shape resembles somewhat the uterus, he made a section at the level of the inflation-tube, thus obtaining an opening about three centimetres in diameter. He filled the bag half full of ashes mixed with pieces of charcoal no larger than a small pea. Holding the bag obliquely, he introduced Budin's and next Doléris's irrigating tube to the fundus of the bag, and then washed it out with two litres of fluid, the douche-can being about a metre above the bag.

The first five hundred grammes of liquid issued soiled by the contents of the bag, but the rest of the fluid returned without *débris*. Repeated experiments of this nature satisfied him of the impossibility of thus completely cleansing the interior of the bag. He pertinently remarks: "Now, if this *débris*, absolutely free within the bag, can not be all washed out by the current of fluid, it is readily apparent why shreds of membrane and products of septic degeneration of the endometrium, which are adherent to a greater or less degree to the surface of the uterus, are less likely to be detached and washed out."—("Archives de tocologie," October, 1888.)

The third general objection to the douche—that resort to it may eventuate in toxic symptoms which may be so aggravated as to lead to death—is a most cogent one, in view of the antiseptic which to-day holds the front rank. This note of warning began to be sounded very shortly after the introduction of corrosive sublimate into obstetric practice, and I presume that now most obstetricians have records of cases where symptoms of mercurial poisoning have followed the use of even the weaker solutions. There have been reported a number of cases of fatal poisoning, with the result that in certain of the maternities of Europe the addition of sublimate to the douche has been discontinued. Personally, in my private practice, I have not used sublimate for nearly two years, a case of mercurial poisoning in my service at the Maternity Hospital that resulted fatally having taught me to fear this possible effect fully as much as I dread the germs.

Such, in brief, being the chief objections which may be urged against the douche, is there no method at our disposal a resort to which will render unnecessary repeated douching in cases which call for action? It is my belief that we possess in the dull curette an instrument which will efficiently replace the douche, and at the same time answer as perfectly, if not more so, all the indications.

What are these indications? To remove from the uterus the products of decomposition, whether these products are free within the cavity, are partially adherent, are limited to the superficies, or extend even to the muscularis. The effect of leaving these products untouched, or touched only in part, I need not dwell upon. Deep infection of the puerpera it is our duty to fight against with every weapon at our disposal. Particularly is timely action important, for at the outset the septic process is limited to the cavity of the organ. In a very short time the degenerated products may enter the circulation and the lymphatics, and peritonitis, general septicæmia, etc., ensue when the infection is beyond the reach of local means. The dull curette is a harmless instrument when used with the care that should guide every instrument. In cases where it has done damage I am inclined to think that it was not the fault of the instrument, but of the hand which held it. The practitioner should be as competent to use it understandingly as he is to use the forceps or to insert the irrigation-tube. It lies with the teachers in our medical schools to train the students in the use of every instrument which might be required in active practice, and it is not at all burdening the armamentarium to include the curette.

The method, then, which I prefer to the repeated douche, and the value of which I have had in a number of instances the opportunity to establish to my own satisfaction, is the following: As soon as fœtor of the lochia appears I proceed to carefully differentiate its source. Without going into the details of a differential diagnosis, let the statement suffice that a thorough vaginal douche of boiled water or of some antiseptic solution will cause this fœtor to disappear should it be due to the decomposition of a clot, we will say, in the vagina. If, after the lapse of a few hours, the fœtor reappears, I administer at once an intra-uterine douche in view of the fact that the cause may be the retention within the uterus of a clot or of loosened *débris*. In case, notwithstanding this douche, the fœtor reappears, then I believe that the time for active treatment has come, and, having determined bi-manually the position of the uterus, I place the patient in Sims's position, insert the speculum, hook a tenaculum in the anterior cervical lip to steady the organ, insert the curette curved to the requisite degree into the cavity, and thoroughly scrape every portion of the endometrium. I have thus literally removed handfuls of degenerated *débris*. When I am satisfied that the curetting has been thorough enough, I turn the patient on her back, insert the uterine tube, and wash out the cavity. In my experience, it has never been necessary to repeat the curetting, and rarely has an additional douching been called for. In certain aggravated instances of septic endometritis which I have seen, where the fœtor was intense, the pulse rapid, and the aspect bad, there has been such marked improvement within twenty-four hours after the removal of the putrid products by the curette that it was difficult to realize that I was dealing with the same patient.

In a word, we may accomplish at once by the curette what it may require days to do by the douche, and, moreover, a remote advantage of the former method over the latter is that the degenerative process may, by timely action, be checked in its inception, the patient, hence, rising from the puerperal bed not only in less time, but with a less degree of subinvolution, than where the process has had a protracted course, owing to the slower effect of the douche.

One word as to the objections which may be urged against the curette.

Is it a dangerous instrument and likely to injure the uterus? I think not; indeed, I believe that the risk of injuring the uterus by the *dull* curette is as mythical as the charge once brought against the douche—that it was likely to set up peritonitis from the passage of the stream along the Falloppian tube into the peritoneal cavity. I can conceive of harm following any instrumental manipulation if the *tactus eruditus* is lacking. Even the insertion of the uterine tube may damage the uterus where the manipulation is rough. It can not be emphasized too strongly that, in the very cases which call for the douche or the curette, the cervical canal is open, and that, once having determined *lege artis* the direction which the instrument should take, it will find its own way, as it were. Still, if there are some who really dread the curette from the conviction that it may harm the uterus, these gentlemen have at their disposal the Doléris brush, which will as effectually clear the uterus of all *débris* as the curette, and can hardly be charged at all with the likelihood of damaging the organ. I question, however, if in aggravated cases of endometritis the brush will fulfill the indications as thoroughly as the curette.

A further objection to the manipulation I have described is that it entails disturbance of the patient. The same objection applies, to an equal degree, to the repeated administration of the douche, the only difference being that the disturbance for the curette occurs once, with the repeated douche two, three, or more times daily, according to the bent of the accoucheur. The use of the curette as I have described it is not painful to the patient; in a nervous woman it may cause a little transient shock, but so may the douche. The great gain by the method is the knowledge that the uterus has been efficiently emptied of the degenerated products, and that the absorption into the system of fresh amounts of sepsis has been, with the greatest probability, once and for all prevented.

In presenting this plea in favor of the dull curette over the repeated douche, I desire to record myself as deprecating, as much as any one can, unnecessary interference with the genital tract after labor. When the necessity arises, however, I believe in the utility of speedy action. It will be noticed that I do not advocate resort to a radical means of treatment until milder means have been tested and have failed. In no given case of puerperal endometritis are we in a position at the outset to predicate the course. Unquestionably, after a skillfully conducted labor, the higher grades of endometritis are exceptional, and, when the affection develops, one thorough douche may arrest the process. If this be not the case, however, owing to the proneness of the degenerative changes to affect the entire endometrium, it has seemed to me wiser not to temporize further with the douche, but to resort at once to the one measure which is capable of arresting extension of the process by attacking the affection at its source.

In the preparation of this plea I have not been unmindful of the contributions to our literature on the same subject. Reference has not been made to such contributions, because I desire this plea to stand as the expression of that which my individual judgment and experience have taught me is the safe, effective, and profitable treatment of puerperal endometritis. As such I submit it to your criticism.

109 East Fifty-fourth Street.

## ON THE COMPLICATION OF DISLOCATION WITH FRACTURE OF THE FEMUR,

### *WITH A CASE.*[*]

By FRED. KAMMERER, M. D.

Dislocations complicated with fractures, although occurring in the various bones of the body, have always been considered rare injuries, especially when affecting the femur. As late as 1837 Liston,[†] speaking of the matter in regard to the humerus, says: "It is barely possible that after luxation force may be applied to the bone so as to fracture its neck. This is a very rare accident." Sir A. Cooper,[‡] while admitting that "dislocations of the os humeri are also sometimes accompanied with fracture of the head of that bone," does not mention any dislocations of the humerus, and only one of the femur, complicated with fracture of the shaft, and that not from personal observation.

Malgaigne,[#] treating of dislocations complicated with fractures in general, says: "This complication is very rare. I have mentioned that of 2,358 fractures in the Hôtel Dieu, only 4 instances are noted. This proportion appears, however, too small. During my service at the Saint-Louis I have observed, among 1,054 luxations, 13 fractures." None of these were in the humerus or femur. Chelius, in his "Handbook," does not mention this complication. Krönlein [‖] writes in a general way, referring to the frequency of these injuries: "As regards the simultaneous occurrence of fractures of the long bones and luxations of their articular ends, such injuries have been occasionally observed, both in the humerus and femur, in the bones of the forearm and leg, and even in the inferior maxilla."

When attention had been once called to these complications individual reports of them became more numerous, and in reviewing the literature of the past thirty or forty years it becomes apparent that these injuries occur with greater frequency in the humerus than in the femur. Gurlt,[△] in 1862, compiled eighteen cases of dislocation of the humerus with fracture of either the anatomical or surgical neck or of both, but only mentions five cases in which the fracture was in the shaft. Thamhayn,[◊] in 1868, tabulated sixty-eight cases of dislocation of the humerus with fracture of the neck, whereas Bardenheuer,* in 1886, was able to add only four new cases to Gurlt's five of luxation with fracture of the shaft of the humerus.

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[*] Read before the New York Surgical Society, December 12, 1888.

[†] Liston, "Elements of Surgery," p. 473.

[‡] A. Cooper, "Dislocations and Fractures," Amer. edition, 1844.

[#] Malgaigne, "Des luxations," p. 880.

[‖] Krönlein, "Die Lehre von den Luxationen," "Deutsche Chirurgie," 1882, p. 34.

[△] "Lehre der Knochenbrüche," vol. ii, pp. 728 and 765.

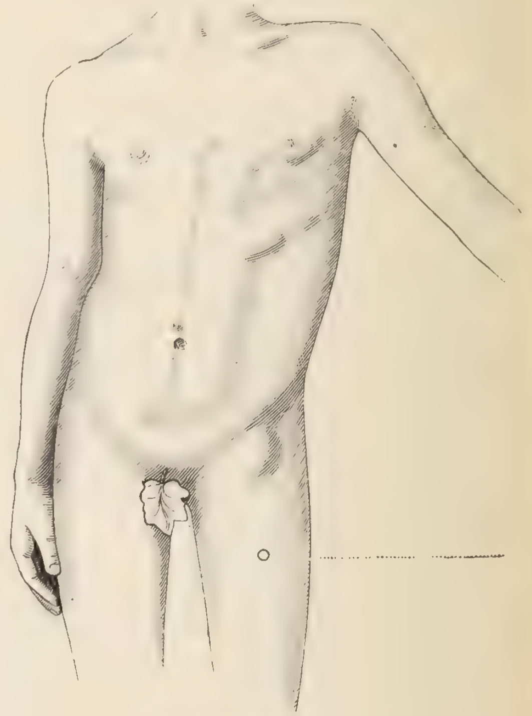
[◊] Thamhayn, "Ueber die mit Fractur des Collum humeri complicirter Schulterluxationen," Halle, 1868. Inaugural Dissertation.

On the complication of dislocation with fracture of the femur a few general statements are made in the text-books on surgery of Holmes, Erichsen, and Agnew; nothing in the last edition of König's "Handbook." Lossen,† in his treatise on the "Injuries of the Lower Extremity," says that fracture of the neck of the femur complicating dislocation is very rare, but does not mention fracture of the shaft as a complication. Hamilton, in the last edition of his "Fractures and Dislocations," has collected five cases of this complication, one of fracture of the neck, and four of the shaft. Stimson ‡ has increased this number to ten, of which three are fractures of the neck and seven of the shaft, excluding, no doubt, some cases that to him seem insufficiently recorded. In a careful survey of the literature of the subject I have collected nineteen cases # of these injuries. I have not included those cases in which the fracture seems to have resulted from an attempt at reduction. The cases are the following:

| | | Fracture of neck. | Fracture of shaft. |
|---|---|---|---|
| Dislocation backward | On to the dorsum ilii...... | 2 | 6 |
| | On to the spine of the ischium.............. | 1 | .. |
| | Into the ischiadic notch... | 1 | 2 |
| Dislocation downward | Below the lower lip of the acetabulum............ | ........ | 1 |
| | Into thyreoid foramen..... | ........ | 1 |
| Dislocation forward and upward on pubes........ | | 2 | 3 |
| Total.................................... | | 6 | 13 |

Including my own observation of dislocation on the pubes, complicated by fracture of the shaft between its middle and upper third, which I have the honor of presenting to the society this evening. The history of the case is the following:

J. M., aged thirteen years, no family history, has always been a healthy boy. The following accident occurred to him on July 18, 1887: He was pushing a swing, wherein were seated six children, the bottom of which was above the ground only about a foot and a half. He was running forward and backward many times, raising himself on the swing with his hands at his hips as it came back. At one of these moments, while trying to jump off, his left heel struck a stone, and, relinquishing his hold, he was precipitated to the ground on his back in a manner which he does not remember. As the swing came forward it passed over him without striking him, but coming back a second time it struck him on the left femur, between the middle and upper thirds, he having meanwhile raised himself on his feet and his right arm in an effort to extricate himself from his uncomfortable position. He says that he felt no pain at the hip joint after he was first thrown or while making movements with the limb in trying to effect his escape from under the swing. After he had been struck the last time he lost consciousness and was carried away. He was seen by two medical attendants soon after the injury, and treated for simple fracture of the femur, first by long splints and then by an extension-apparatus. Six weeks later, the fracture having united, the patient was allowed to get up. At this time he was entirely unable to move the limb at the hip joint, and a round, hard, painless tumor was noticed in the left groin. Passive movements were begun and continued for many months. I saw the patient for the first time in April last, and since that time the condition of the limb has changed very little.



O Seat of fracture.

The muscles of both lower limbs seem equally developed. The left lower limb is slightly everted, a little abducted but not advanced. At the junction of the middle and upper thirds the femur shows a distinct curving, with its convexity on the outer aspect of the limb. Somewhat to the inside and about two inches below the anterior superior spine of the ilium a round tumor bulges out the integuments. On the right side the distance from the anterior superior spine to the malleolus is twenty-eight inches; on the left, twenty-six inches and three quarters. The distance from the anterior-superior spine to the trochanter on the right side is four inches; on the left, two inches and three quarters; but in the injured limb the trochanter still lies in Nélaton's line, which means that it has moved upward and forward

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* "Krankheiten der oberen Extremität," "Deutsche Chirurgie," 1886, p. 355.

† "Verletzungen der unteren Extremität," "Deutsche Chirurgie," 1880, p. 55.

‡ Stimson, "Treatise on Dislocations," p. 450.

# Bloxam, "London Medical Gazette," 1833, p. 702. Etéve, "Gazette médicale," 1838; also Malgaigne, "Des luxations." Thornhill, "London Med. Gazette," 1839, p. 609. Douglas, "Edinburgh Monthly Journal," 1843, x, p. 241. (Badley) A. Cooper, "Fract. and Dislocations," American ed., 1851, p. 84. Bainbrigge, "London Med. Gazette," 1846, vol. iii, p. 1004. O'Connor, "Provincial Med. Journal," London, 1844, p. 77. Markoe, "N. Y. Journal of Medicine," 1855, p. 30. Cooke, "The Lancet," 1864, i, p. 37. Delagarde, "St. Barthol. Hosp. Reports," 1866, vol. ii, p. 183. Chitwood, "Med. and Surg. Reporter," Philadelphia, 1867, xvii, p. 353. Tunecliff, "Am. Journal of the Med. Sciences," 1868, p. 123. (Birkett) Bryant, "Practice of Surgery," 1869, p. 761. Harcourt, "Buff. Med. and Surg. Journal," 1870–'71, x, 241. De Morgan, "Med. Times and Gazette," London, 1873, i, 549. Murdoch, "Trans. of the Med. Soc. Pennsylvania," 1878, xii, i, 144. Allis, "Trans. of the Med. Soc. Pennsylvania," 1879, xii, ii, 682. Lorsen, "Die Verletzungen der unt. Extr.," "Deutsche Chirurg.," 65, p. 55.

from its normal situation. The distance from the round tumor to the trochanter is three inches and a half. The vessels lie on the inner side of the supposed head of the femur.

Flexion and extension in the hip are executed on an axis running through the bony tumor and the trochanter, the knee moving upward and outward in flexion. Passive flexion and extension are possible to the extent of almost a right angle, while active movements in the hip joint, without participation of the pelvis, can be executed to a very limited extent. The extent of rotation is apparently normal, extreme inward rotation bringing the foot into a vertical position when the patient lies on his back. During manipulations with the extremity the tumor in the groin is felt to move simultaneously with the trochanter. Corresponding to the curve in the femur a distinct axial displacement can be felt at the junction of the middle and upper thirds of about 150° to 160°. There is decided flattening of the left gluteal region.

In reviewing our nineteen cases, we find that thirteen were complicated with fracture of the shaft and only six with fracture of the neck of the femur, the reverse of the case in the humerus, where by far the greater number of fractures were in the neck of the bone, either surgical or anatomical, or as comminuted fracture in both. An explanation of this phenomenon may be looked for in the anatomical relations of these two joints and in the nature of the violence leading to the injury. The shoulder joint, although well protected by soft parts, is a very free ball-and-socket joint when compared with the hip joint. Again, Stimson,* speaking of the ætiology and mechanism of luxations in general, especially mentions the shoulder joint as one in which dislocation by direct external violence is possible, and in corroboration cites cases of Busch and Krönlein, where the head was driven inward, downward, or backward. Besides, in looking over Gurlt's eighteen cases previously mentioned, I find the exact nature of the violence stated in very few of them, but three times a fall upon the shoulder is distinctly mentioned, and only once a fall upon the elbow. When we take into consideration that the greater number of fractures of the humerus in the vicinity of the head are also the result of direct external violence, it seems that we are justified in assuming that in this bone dislocations complicated with fractures at its upper extremity are generally caused by a single direct force from without, leaving the succession in which the individual injuries occur an open question. Even theoretically this would seem otherwise in the hip. It is difficult to assume that direct violence applied somewhere near the head of the femur could produce a luxation. Again, we know that some intracapsular, and nearly all extracapsular, fractures of the neck are the result of external force applied to the trochanter. It follows that the complication of fracture of the neck and dislocation is either the result of two separate forces, or of one unspent after the production of the dislocation and attacking the bone at some distance from the seat of injury. But it is easily understood that violence exerted at a distance from the head of the bone will not bring about the double injury as easily as when it is applied to the head itself, provided, of course, that the individual injuries can be produced by direct violence, as in the humerus. Thus, I think, the infrequency of the complication of dislocation with fracture of the neck of the femur finds an explanation. Some of the cases of this injury which I have collected seem to bear out what has been conjectured about their ætiology. In Lossen's case the patient fell from a ladder on his feet and then on the trochanter of the affected side. A heavy load fell on the back of Tunecliff's patient, crushing his feet through the ice on which he was standing, he then being precipitated with great force with the trochanter of the injured side upon the ice. Chitwood's patient was thrown from a wagon, which fell on him, and unloaded on his hip when an attempt was made to free him. In these three instances it is evident that the dislocation, occurring first, was caused by another violence than the fracture of the neck, which every time resulted from force exerted on the trochanter.

Of the thirteen cases of dislocation in which the shaft was fractured, the following can be said: Etéve's patient was struck by a falling tree and suffered a dislocation backward; a similar violence acted in Thornhill's case, where a load of five hundred pounds fell on the patient's back while he was leaning forward. Markoe's patient fell from a ladder at the height of a third story, sustaining multiple bone injuries. Allis's patient was struck by a car while walking on a track. Badley's patient was buried under a fall of coal, receiving many other injuries. In all these instances it seems probable that more than one kind of violence entered in the production of the lesion. In four other cases it is distinctly stated that such was the case. In one (Bainbrigge) the weight of the body was thrown on the left leg to prevent falling, a semi-revolution of the trunk made, and the patient then precipitated with force to the ground. In a second case (O'Connor) the patient fell from a height of ten feet upon a beam, which passed between his legs, and then fourteen feet more to reach the ground. In a third (Cooke) the patient's right foot slipped into a hole and he fell with his legs separated; while trying to get up, still having his foot caught, he fell a second time upon his right side. In my own case I can not doubt that the dislocation was caused in the attempt to get off the swing, and the fracture when he was struck by it a second time. This statement that he was able to raise himself is counterbalanced by the fact that he did not succeed in this very rapidly, and that a dislocation on the pubes occasionally allows the use of the affected limb immediately after the accident. In the other of the thirteen cases the mechanism and ætiology of the injury are not mentioned, but, from our analysis of the cases in which they are stated, we are led to the conclusion that the complication of dislocation with fracture of the shaft of the femur is the result of at least two distinct violences.

It is certainly remarkable that in the six cases in which the dislocation was not recognized at the time of the injury the fracture was always in the shaft of the femur and never in the neck. Four of these were dislocations backward, one downward, and one on the pubes—my own. In one (Thornhill) it is stated that the hip had evidently sustained some injury, but the diagnosis was impossible on account of tumefaction of the soft parts, and was only made a week later. In Murdoch's case the head rested between the lower lip of the acetabulum and the tuberosity of the ischium, and the displacement was recognized only a year afterward at the post-mortem. Allis's patient was dismissed from the hospital, his fracture united, but he reappeared after seven weeks, with his limb three inches shorter than when discharged, occasioned by a moving up of the head that had been dislocated on the ilium and remained opposite the socket until the limb was used. In Bainbrigge's case and my own the dislocation seems to have been overlooked, as it can hardly be presumed that great diagnostic difficulties presented themselves. I think that Allis's recommendation of introducing an exploring needle into the soft parts to ascertain the absence of the head from the socket is a procedure rarely called for. That, on the other hand, some unrecognized and unreduced dislocations have not been recorded can scarcely be doubted.

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* Stimson, "Treatise on Dislocations," p. 25.

In the treatment of these injuries it is generally admitted that the reduction of the dislocation ought to be attempted at all hazards and as soon as possible. I regret to say that I have found so many incomplete data regarding the manner in which the reduction was effected. Thus, in the cases where it immediately followed the injury, Bryant, for example, tells us that Birkett reduced with the greatest facility a pubic dislocation, "the bone slipping into place on the application of gentle, well-directed force"; in Harcourt's case the reduction was effected during examination under an anæsthetic—in fact, the dislocation was diagnosticated only from a snapping noise at the time; in O'Connor's case it is assumed that the reduction was favored by the active spasm of the vasti, which brought down the head from the dorsum, while the fracture was reduced evidently by traction. Chitwood reduced by manipulation, but the fracture of the neck in his case was only partial, and became complete afterward in the course of treatment, and of Cooke's and Etéve's cases only do we learn that traction and direct pressure were the effective agents in reduction. In Markoe's case it is asserted that reduction was accomplished by manipulation, pure and simple. In the three cases in which reduction was made after consolidation of the fracture (Badley, Thornhill, and Tunecliff) during the fifth or sixth week, this was accomplished twice by traction in fracture of the shaft, and once by manipulation in fracture of the neck, a refracture, however, occurring in the last case. Such an accident will be more likely to happen when the neck has been the seat of fracture, on account of more powerful leverage during manipulation and the direction of that part of the bone during traction. Once the reduction was accomplished on the eighth day by manipulation, the fracture being bound up in splints. In eight other cases an attempt at reduction was not made, the dislocation in the majority of cases having been overlooked, but several times not attempted on account of the condition of the patient. I have not, therefore, been able, from the experience of others, to add much to that which is already known about the treatment of these injuries. Of the six dislocations with fracture of the neck, the former was reduced in only two immediately after the accident (Harcourt and Chitwood), and these were probably cases of partial fracture. Direct pressure on the head, assisted by slight traction on the femur in the same direction as pressure, will probably prove most successful. Neither have I been more fortunate in reviewing the thirteen cases of fracture of the shaft. Either, it seems, the dislocation was not detected or it was reduced very easily. Traction, pressure on the head, and manipulation were all effectively employed. About the value of traction in these cases opinion does not seem much divided. Malgaigne, speaking of Etéve's case, says: "Traction existed more in the imagination of the surgeon than in his method, and the latter was in reality composed only of flexion and pressure." Bloxam thinks that, in his case of pubic dislocation, "extension would have merely separated the broken ends of the bone from one another." Allis, in his admirable exposition of this subject, says: "Extension under such circumstances would not avail anything." Stimson writes: "It would certainly be injudicious and probably ineffectual to attempt to reduce by traction," and only Andrews is of the opinion that traction may be employed efficaciously, unless the fracture is in close proximity to the joint. It seems to me that this ought to be the case to a certain extent, that the force ought to be transmitted from the lower to the upper fragment through the soft parts, notably the vasti muscles, which are inserted along the upper half of the femur. Some experiments that I have made on the cadaver are in accord with the view expressed. But, even granting that the effect of traction is very slight, it is to be remembered that in applying it the limb will always be made to assume a position most favorable for the exercise of pressure—the powerful agent in the reduction of all these luxations. That simple manipulation will be of little avail has been generally admitted, and it is difficult to understand how it could be otherwise, if the upper fragment, either directly or by the use of splints, can not be controlled.

In case of failure to reduce the dislocation by other means, proposals for surgical interference have been made of late under protection of the antiseptic system. Allis, in 1879, recommended the use of a strong-pointed awl, or gimlet, or a strong screw thrust into the trochanter to aid in the reduction. Andrews, in 1883, advised for a similar purpose an incision below the trochanter, the seizure of the upper fragment with a lion-jawed forceps, and the reduction by manipulation. I have made a few experiments on the cadaver with a view of testing the practicability of these proposals. After dislocating the femur on the dorsum or pubes, I divided the shaft in the upper third with a chisel. I then cut down on the fracture, and seized the upper fragment, in the direction of the shaft, with a strong forceps, and found it easy to reduce either of the two dislocations. The same was accomplished with a long screw driven into the trochanter, but it seemed to me that more force could be exerted and the fragment better manipulated when it was caught with the forceps. I was astonished to find with what ease the reduction was effected by traction in the proper direction and pressure on the head of the bone. On the other hand, I did not succeed in reducing two dislocations by these means in which I had cut through the neck. The effect of traction in several experiments of fracture in the upper third of the shaft was less than I had anticipated, and nothing beyond what I have previously stated.

If it be remembered that the above suggestions were made at a time when the fruits of antiseptic surgery were just being reaped, I think we are much more justified in repeating them to-day. I would say that in all cases of fracture below the trochanter, in which it has been impossible to reduce the dislocation on account of the difficulty of exercising leverage by the small upper fragment, surgical interference to compensate for this is indicated, on account of the great importance of immediate reduction. In irreducible luxations, with fracture of the neck, the course to pursue seems to me more difficult to define. Stimson * has stated the position well when he says that the only alternative left is to seek a pseudo-arthrosis at the seat of fracture, or to correct the flexion and adduction in dorsal dislocation, and seek union with a view to the formation of a new socket for the head on the ilium, provided we do not wait for consolidation before attempting reduction. Stimson thinks the latter course the most advisable, as necrosis of the head has followed in one case of dislocation complicated with fracture of the neck,† and in two cases where the neck was fractured during the attempt to reduce.‡ I do not find that this accident occurred in any of the six cases that I have collected. Tunecliff's case is the only one in which the plan of allowing the fracture to unite with the dislocation unreduced was adopted, and here we are unable to judge the result, because the bone was refractured when the dislocation was reduced thirty-eight days afterward. But how are we to know, whether or not union had taken place without such displacement, that reduction would have been possible? We are informed that, at the time of the injury, "the limb could with facility be brought down to the side of its fellow; rotation, abduction, adduction, and even extension could be readily made." I can not conceive that under such conditions the two fragments could have been approximated to each other with any degree of assurance of union in their normal relations. And it has been somewhat surprising to me to note how little attention has been called to the displacement which will follow when fractures of the shaft are treated without regard to the existing dislocation. Sir A. Cooper cites the case of Mr. Badley, without any further comment, thus: "The hip was dislocated on the dorsum, and the same thigh broken about the middle of the bone. As the reduction of the hip was, of course, impracticable, the thigh was bound up in the usual manner and treated without any reference to the dislocation of the joint, with the hope that, when the thigh-bone was reunited, the hip might possibly be reduced. At the end of five weeks, the bone appearing tolerably firm, I had a very careful and unremitting extension made by pulleys, and in less than half an hour had the satisfaction of feeling the head of the bone re-enter the socket. . . . The patient became so upright as to show scarcely any signs of lameness afterward." Thornhill tells us that in his case of dislocation into the ischiatic notch "the fracture was reduced and the limb secured in the usual manner, and afterward placed in the straight position." A week later the dislocation was discovered. Yet we are told nothing of the rotatory displacement, which ought to have become very apparent after the reduction six weeks later. To my knowledge, Allis is the only one among the writers on this subject who has taken this point into careful consideration. He calls attention to the fact that the patient who has been treated as if he had sustained only a simple fracture is much better off with his dislocation unreduced, for, if reduction should be accomplished, the angular and rotatory displacement would immediately become manifest. I think an examination of the patient whom I am allowed to present to the society this evening will bear this out admirably. A reduction of the dislocation would, I fancy, cause an inward rotation of the lower limb of about 45°, and would certainly greatly impair its usefulness, unless the bone were refractured and set in the correct manner. And I think that no valid objections could be raised against such measures. Allis says the latter ought to be postponed until the head rests safely in the socket and the capsule has healed, which will be in about a month, "but by that time the fracture would be so firm that to attempt it (refracture) would be to endanger the bone at some other point. Hence, when a dislocated and fractured bone is treated from the outset as if it were a simple facture, it seems hardly justifiable to make any attempts at reduction after union of the fragments." I do not think that this opinion can be entirely upheld to-day. The division of the bone at the seat of fracture, whether immediate or consecutive, is a procedure devoid of danger under the necessary precautions. And no matter how perfect the movements of the limb in a nearthrosis are, that such a condition should be preferred to the normal state, even if the latter is only attained after many surgical interferences, is hardly a question to be seriously considered. In my own case, then, it is only the impossibility of reduction which has prevented the attempt. When I saw the patient the dislocation was of ten months' standing. We hear of dislocations that have been reduced even at a later period. The time when a dislocation is still reducible is not definable. It depends upon factors not accurately to be determined—the distance of the head from the acetabulum, the degree of reaction and of consequent formation of adhesions, the interposition of parts, the condition of the acetabulum, etc. I do not, however, think that I have been guilty of an omission in not attempting reduction. We have in our patient an excellent example of the powers of adaptation in our system. He can walk and run, and is little hindered in the activities of daily life. But that the ideal result would have been obtained only by a reduction and consecutive refracture I willingly admit.

Allis recommends another course: "to make the lower fragment assume the axis and direction of the upper fragment, and to secure it in this position until union has taken place." Theoretically, this is certainly a correct proposition, but it seems difficult to realize practically. We are told in a general way how to place the lower fragment by a statement of the direction that the upper fragment has assumed. I do not understand with what appliances the lower fragment could be brought in our case, for example, into such

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* Stimson, "Treatise on Dislocations," p. 452.

† Post, "Medical Record," 1878, xiii, 366.

‡ Wippermann, "Archiv für klin. Chirurgie," vol. xxxii, p. 440. Bryck, *ibid.*, vol. xv, p. 279.

a position of abduction and eversion as would correspond to that of the upper fragment and thus be retained a length of time sufficient for osseous union without great discomfort to the patient, for we must not forget that the forces tending to place the upper fragment in a certain position in any dislocation of the hip will prove much more effective when working on the small upper fragment than on the entire lower limb. Moreover, when we apply traction by means of an extension-apparatus in simple fracture of the thigh, we have the upper fragment, with an intact hip joint, in a condition to accommodate itself to the movements of the lower, which are, to a certain extent, inevitable in the course of treatment. How changed are these conditions when the upper fragment is held down by the Y-ligament! But if we desire to reduce afterward, without refracturing, it certainly is of the greatest importance to insure faultless union, as any displacement high up in the femur will make itself very manifest at the other extremity of so long a limb. I am led from these considerations to emphasize as the most rational method of treatment in these cases the primary reduction, if at all possible, even by operative measures, knowing, as we do, that a complicated fracture, especially when the work of the surgeon, ought to run an apyretic and aseptic course.

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## FATAL PERITONITIS FOLLOWING OVARIAN APOPLEXY AT THE MENSTRUAL PERIOD.

By J. A. FORDYCE, M. D.[*]

Fatal cases of peritonitis following menstrual suppression are among the rare occurrences of medical practice; at least, a search through the literature of gynæcology and personal inquiries of practitioners have failed to elicit reports of many such cases.

It has been my fortune to have observed two cases of death from peritonitis following menstrual suppression, in one of which an autopsy confirmed the diagnosis made during life.

Briefly stated, the history of the first case is as follows:

A single and previously healthy girl of twenty years of age, after exposure during menstruation, experienced violent pain in the lower abdominal region, soon followed by fever, rapid pulse, extreme abdominal tenderness and distension, vomiting of greenish-colored fluid, delirium, and death within forty-eight hours after the onset of the disease. Vaginal and abdominal examination in the beginning of her illness failed to discover any abnormal state of the pelvic organs. An autopsy was not allowed.

In the presence of the above-named symptoms a diagnosis of peritonitis was made. Occurring, as it did, after sudden suppression of the menstrual discharge, in an individual free from any local affection of the pelvic viscera, would be strong presumptive evidence in favor of a causal connection between the menstrual suppression and the peritonitis.

The other case occurred in a girl aged fifteen years, of previous good health. She had menstruated regularly for one year. Her mother attributed her illness to exposure to cold and wet at the time her menses were due; after such exposure she came home, and shortly afterward complained of chilliness and pain in the region of the right ovary. Fever, delirium, and rapid pulse were present almost from the onset of her illness. Her temperature (rectal) ranged from 102° to 104° F. At no time was there great abdominal distension, and, though she moved from one side of the bed to the other, she cried out frequently with pain. A marked degree of emaciation, together with a haggard and drawn condition of the features, were soon noticed. Diarrhœa of a light grade was present during her illness. During the thirty-six hours preceding death a greenish-colored fluid was vomited at frequent intervals.

Death resulted from heart failure after an illness of eight days. An *autopsy* made eighteen hours after death by Dr. H. P. Loomis, whose report is here given, revealed the following condition of the abdominal and pelvic viscera:

Body well nourished. Moderate distension of the abdomen; appearance otherwise normal. At the request of the family, the head and thorax were not opened.

*Abdomen.*—On opening the abdomen, an abundant deposit of fibrino-purulent material was seen covering all the abdominal viscera and matting the coils of small intestines together. The deposit extended as high as the under surface of the diaphragm, but was most abundant in the lower part of the abdominal cavity. No tubercles were seen, and no abnormal condition of the vermiform appendix.

The intestines were normal; no ulcerations were found. The liver showed passive congestion, but was otherwise normal. Spleen normal. Kidneys, cloudy swelling. The pelvic peritonæum was covered with a fibrino-purulent exudation.

At the junction of the right ovary and Falloppian tube a blood extravasation about the size of a cherry was seen. The blood seemed to have spread for a short distance between the layers of the broad ligament. No pus was found.

On opening the ovary by a longitudinal incision, the cut surface was intensely red and full of tortuous vessels. A *corpus hæmorrhagicum* about the size of a hazel-nut was seen. There was a connection between this and the blood extravasation without.

A slight catarrhal condition of the right Falloppian tube was noted.

Left tube and ovary normal. Uterus normal; blood-stained mucus covered its mucous membrane such as would appear after a recent menstruation.

Vagina normal; hymen present.

Dr. H. P. Loomis has informed me in a personal communication that he had performed autopsies in two cases of death following sudden menstrual suppression, in both of which a general peritonitis was found, which seemed to have originated in the pelvic region, but in neither of these cases was there an ovarian blood-cyst nor any cause, aside from the sudden suppression of the menstrual flow, to account for the fatal peritonitis.

In the literature at my command I have failed to find the detailed reports of any similar cases, though Schroeder, in the eighth German edition of his "Krankheiten der weiblichen Geschlechtsorgane," under the heading of hyperæmia and hæmorrhage of the ovaries, says that rupture of a Graafian follicle may in exceptional cases be followed by so profuse a hæmorrhage that it can (1) prove directly fatal; (2) cause a peritonitis which may terminate fatally; (3) produce a capsulated blood-clot in the peritoneal cavity; (4) form a retro-uterine hæmatocele.

Graily Hewitt (page 491 of the first American edition of his "Diseases of Women") discusses the subject of apoplexy of the ovary and explains the occurrence of blood-cysts and their rupture into the peritoneal cavity in the following manner: A Graafian follicle does not rupture as it should into the Falloppian tube; hæmorrhage takes place within it; it enlarges from continuous bleeding and rupture occurs. Should the bleeding be profuse, an intraperitoneal hæmatocele would be produced. Such an intraperitoneal hæmorrhage seldom causes a fatal peritonitis.

Olshausen ("Die Krankheiten der Ovarien," page 27) divides ovarian apoplexy into two varieties: (*a*) that which takes place in the follicle; (*b*) that which occurs in the stroma of the organ.

The first variety, by far the most frequent, occurs in the great majority of cases at the time of the menstrual congestion as a pathological exaggeration of the normal menstrual hyperæmia.

As causes of such follicular hæmorrhages he gives, quoting Winckel, general diseases impairing the quality of the blood, congestions of the abdominal organs, heart failure, phosphorus poisoning, extensive burns, etc.

As a rule, such blood-cysts do not burst, but terminate in absorption of their contents.

Should rupture occur, the case might terminate in one of the ways before mentioned.

Sir James Y. Simpson, in his "Clinical Lectures on the Diseases of Women," quotes Bernutz as giving twenty cases of pelvic peritonitis out of ninety-nine as a result of menstrual suppression. The author remarks, however, that, as nearly all such cases terminate favorably, it is impossible to detect the part primarily affected.

Thomas ("Diseases of Women," fifth edition, page 664), writing of ovarian apoplexy, says the great danger in such cases is from peritonitis arising from implication of the peritoneal fold which forms the broad ligament, or from rupture of the cortical portion of the ovary and the occurrence of hæmatocele.

In conclusion, I may say that the autopsy in the second case reported renders it extremely probable that the blood extravasation was the starting-point of the peritonitis which became general and proved fatal. Why, in the absence of any previous pathological condition of the uterus or its appendages, the presence of so small a quantity of blood without an added septic infection should cause a general peritonitis is not wholly clear. If, following the irritation to the peritonæum by the blood-clot, a secondary infection took place, its origin can not be accounted for by any previous abnormal condition of the genital organs nor by infection through the lymph-vessels following a vaginal examination, as no such examination was made.

66 West Fortieth Street.

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**"Superstition or Fact?"**—Under this title the "British and Colonial Druggist" says that the following inquiry was recently made of an apothecary: "How much quicksilver would be necessary to cause a wet loaf of bread to float?" The question was prompted by the belief that by this means the location of the body of a drowned boy could be fixed, the loaf being supposed to remain stationary in the water over the body.

# A CASE OF LABOR DELAYED BY ADHESIONS BETWEEN THE MEMBRANES AND UTERUS.*

By J. H. EMERSON, M. D.

I can not claim novelty or originality for the brief statement to which I now invite your attention; but the point in question does not very often present itself as in this case, and, from its infrequency, is deserving of a few moments' consideration.

Mrs. ——, quintipara, thirty-seven years old, fell in labor early in the morning of October 7th. The uterus had been very much distended and she had suffered for some weeks from the effects of pressure, so that for at least three weeks previous the increasing œdema of the lower limbs, which now reached above the knees, had made it impossible for her to take any exercise. She could hardly walk across the floor. At the same time neither the nervous system nor repeated examinations of the urine gave any evidences of degenerative changes in the kidneys. On examination, I found the vertex presenting but the head not engaged, and the os uteri hardly to be reached. Pains, not of great force but occasioning much distress, recurred at irregular but tolerably frequent intervals. Various measures were employed with a view to increasing the efficiency of the pains and mitigating the suffering, but, although these persistently continued, the head would not engage, and the only sign of progress after about thirty-three hours was a very moderate dilatation of the os to perhaps the size of a quarter of a dollar. The pains had latterly become much sharper, and I had given chloroform in small amount at their height. The patient was growing very weary and began to complain of acute pain in the forehead at the acme of the pains, though her general condition was otherwise very satisfactory. I asked to have Dr. Partridge see her at this time. I gave a little more chloroform for the purpose of his examination, and, on passing the examining finger very high up, he discovered some adhesions between the bag of membranes and the inner surface of the cervix. His advice was that I should pass one or two fingers far enough to separate these adhesions, then wait to see whether the great distension still interfered with the engagement of the head. If so, to rupture the membranes after first making some effort to dilate the os with the finger. While Dr. Partridge attended to a freer administration of chloroform I passed my index finger into the cervix to the depth of about two inches and a half and swept it round. I encountered, especially toward the left and posteriorly, several patches of adhesion, not stretched out so as to form bands, but simply uniting the opposing surfaces, and these I easily separated so that when the progress of the case subsequently seemed to demonstrate that these had been the chief impediments to dilatation and engagement, it was rather a source of surprise that the expulsive forces had not been sufficient to overcome this degree of resistance unaided. The head now promptly engaged, the os dilated rather slowly even after I had ruptured the membranes, but everything went on favorably. At the end of about thirty-six hours from the beginning of labor female twins were born, weighing, respectively, seven and eight pounds. The mother suffered severely from after-pains for fully thirty-six hours.

If we may judge from the attention given to the subject in the works on obstetrics, the existence of such adhesions as I have described can not be regarded as often exerting

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* Read before the New York Clinical Society, November 23, 1888.

an important influence on the progress of labor. Thus I find no reference to it in the treatises of Charpentier or Winckel, Leishman or Playfair. On the other hand, it is spoken of by Spiegelberg, by Schroeder, by Lusk, by Parvin writing in Hirst's "American System of Obstetrics," and by Stoltz in his article "Dystocie" in the "Nouveau dictionnaire de médecine et de chirurgie pratiques." This latter writer says it is usually sufficient to detach the adhesions by passing the finger through the os, which may itself be at the same time occluded, and sweeping it round the lower segment of the uterus. Schroeder ascribes these adhesions to endometritis decidualis chronica and says that separation of them with the finger, or rupture of the membranes, will effect the dilatation of the os uteri. Spiegelberg speaks to the same effect, while Parvin says the remedy is rupture of the membranes.

This comprises the substance of what is said about this cause of delayed labor in the recent text-books. It certainly is not a prominent or frequent cause of dystocia, and on that account is the more likely to be overlooked. There is nothing which points positively or distinctly to the existence of this form of decidual endometritis during pregnancy, and when labor sets in there are only negative symptoms to direct attention to the seat of difficulty or the cause of delay. In cases similar to the one I have reported the overdistension of the uterus—in this instance due to the twin pregnancy, but in another perhaps to hydramnion—must be given due weight as an element in causing the delay in dilatation, the expulsive forces acting at so great a disadvantage as to be unequal to effecting a separation of tissues that would perhaps have yielded to the ordinary effort.

The method of remedying this condition does not seem to me indifferent. The separation of the adhesions should by all means be our first aim, and we should be slow to deprive our patient of the advantage of the dilating wedge of the bag of waters. Barnes's bags might, under certain conditions, render great service both in diagnosis and treatment. Another danger that might arise in connection with such adhesions would be, possibly, rupture of the uterus if the union were very firm and in a position not easily accessible. Rupture of the membranes in that case would also expose the patient to the danger of prolapse of the cord, or even of the placenta, an accident in regard to which Spiegelberg may be quoted to the effect that, although it is most often seen in conjunction with placenta prævia, it may sometimes occur when the placenta is normally situated, especially in the case of the second of twins, a caution quite apropos to the case I have reported. Even if no accident occurred till after the delivery of the child, we might still have to run the risks of hæmorrhage, etc., due to the retention of portions of the membranes. Finally, we should be more than ordinarily careful in such a case in the delivery of the secundines, remembering that the adhesions we have had to deal with in the lower segment may have been but one result of an inflammatory process which has perhaps involved other portions of the fœtal envelopes and possibly the placenta.

# PAPILLOMA IN THE FAUCES.

By J. HERBERT CLAIBORNE, Jr., M. D.

A stoutly built German man of twenty-eight years of age presented himself at the Northwestern Dispensary, stating that his throat had been sore on the right side for some time. His impression was that something had become lodged in it while eating. Inspection revealed a whitish globular mass of about the size of the tip of one's ring-finger lying between the anterior pillar of the fauces and the tonsil on the right side.

The mass was brought plainly into view by the gagging produced by the tongue-depressor. It was grayish in color, reminding me strongly in the color and in the character of its superficies of an etiolated or unripe strawberry. When it was picked up by the forceps it could be seen to be pear-shaped, being held to the upper tip of the right tonsil and to the mucous membrane of the adjoining sulcus and to that of the posterior aspect of the anterior pillar by a thin, grayish pedicle.

At my suggestion, Dr. R. C. Myles passed the wire loop of a nasal polypus snare around it. Gentle traction caused the rupture of the pedicle. The tumor fell into the mouth and was spit out on the floor.

In its gross appearance it was the type of a papillomatous tumor. By some accident the specimen became dried and flattened between two pieces of paper, and its histological characteristics became in consequence altered. I feel certain that a microscopic examination would have confirmed our diagnosis.

A mild antiseptic gargle was prescribed. The patient has not presented himself for treatment since.

**Temperance Drinks and Typhoid Fever.**—"Travelers, and especially sailors, in Eastern ports," says the "Lancet," "are apt to find themselves placed at a disadvantage in choosing a suitable beverage for daily use. If, as often happens, they avoid stimulants—usually a wise precaution in the absence of active exertion—they must fall back upon water in some form, either simple or medicated. Here, too, unfortunately, dangers of another kind await them. The water itself is frequently contaminated with sewage, and is used in this state in the manufacture of the various temperance drinks which ought really to form the staple of consumption in hot climates. According to recent accounts, the utter carelessness as to its purity displayed by native makers of such drinks calls for very strict corrective measures. Led, it would seem, by the example of their poorer neighbors, they are credited with using even water from drains and gullies in the preparation of what ought to be the most innocent beverages. It is not therefore surprising that cases of enteric fever are said to have arisen among those very temperate seamen who should have remained the healthiest of their class. It is more easy to point out the fault than to find a remedy. In the way of prevention, however, one or two possible courses suggest themselves. For example, the civic governments would render excellent service by requiring every manufacturer to maintain on his premises a sufficient supply of pure water, and by enforcing its demand by adequate supervision. Again, our home producers and the shipping firms concerned might come to terms with a view to the export of a supply of non-intoxicant drinks of reliable quality. Lastly, it is very advisable that, until some such needful arrangements are in operation, a timely warning should be issued as required by ships' officers to those under their charge."

**Pyrodine, the New Antipyretic.**—"Notwithstanding the strongly worded caution which we published in our last issue (Dec. 8, 1888) against using this new drug, except in the most severe and critical cases, and even then in the smallest doses and at long intervals, we hear that it is being occasionally employed and causing grave and serious symptoms. We would again point out that doses of from eight to twelve grains sometimes gave rise to toxic effects, even when administered with every care, by Dr. Dreschfeld, as mentioned in his article, and we would reiterate our caution with regard to its employment."—*Lancet.*

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## THE SO-CALLED "DUAL" SYSTEM IN THE MANAGEMENT OF LUNATIC ASYLUMS.

In our issue for August 11, 1888, we commented upon the management of the New Jersey State Asylum for the Insane at Morristown, which management was upon what has been called the "dual" plan. According to this system, the medical officers of an asylum are charged only with the care of the patients in a strictly medical sense, while the administration devolves upon a steward or some other non-medical officer. The management of the Morristown Asylum on this plan was accompanied some months ago by the resignation of the chief medical officer under circumstances that seemed to indicate a sufficient degree of antagonism between him and the administration of the asylum to involve a diminution of the amount of relief that might have been afforded to the patients, and to provoke unpleasant comments in the newspapers. This state of things led to the appointment of a legislative committee "to inquire into and investigate the management, government, and discipline" of the asylum. This committee has now made its report, and we are glad to observe that it wholly exonerates the steward from all charges and insinuations of the improper management of the affairs of his department. It appears to us, however, that, had the same degree of leniency been shown by the committee toward the retiring medical officer, he would not figure in their report, as he now does, as more culpable for having failed to reiterate his complaints to the Board of Managers under discouraging circumstances than praiseworthy for having brought them to the attention of the board in the first instance. It seems that in this institution both the medical officers and the steward are governed by the Board of Managers; but it is evident that a board constituted of men who are occupied fully with their own affairs, as is almost always the case with such boards, is utterly unequal to the executive work required in the management of a large asylum. At most such a board can really be of service only in an advisory capacity or in the settlement of questions of magnitude arising but now and then. If anything were needed to corroborate this opinion, it could be found in the very fact that in this asylum the managers failed to detect for themselves the abuses which, in the opinion of the legislative committee, the medical director was culpable for not having called to their notice repeatedly.

The truth is that there ought to be a single executive officer responsible for the management of every such institution in so far as every-day details are concerned, and that officer should be the head of the medical department. It has been pretended that the medical superintendents of lunatic asylums were so burdened with the agricultural and other non-medical affairs of the institution as to cripple their usefulness in their own proper sphere; but it does not follow that, because the chief medical officer is empowered to give orders to the gardener, his thoughts are to be engrossed with matters pertaining to the latter's duties. As to the impression current among many persons that medical men are unfit to assume the entire control of a hospital or a lunatic asylum, we have only to call to mind the excellent management of our army hospitals during the late civil war, which was wholly in the hands of members of the medical corps. No hospital or asylum can long prosper under two masters, even with the backing of a board of managers, and, although the legislative committee in question has not seen fit to recommend any changes in the management of the Morristown Asylum, we trust that the so-called "dual" system will not be widely adopted.

## A GERMAN VIEW OF MEDICAL WOMEN.

At the last annual meeting of the Assembly of German Naturalists and Physicians, Professor Waldeyer delivered an address upon the "Practice of Medicine by Women," reported in "La semaine médicale," for September 26, 1888. He endeavored to clear himself from any accusations of unfairness or prejudice by referring in complimentary terms to the talented women who taught in the school of Salernum—to Louise Bourgeois, Marguerite de la Manche, Marie Louise Lachapelle, and many others eminent in the practice of midwifery.

He also admitted that for many centuries the healing art had been in the hands of women and that they had made valuable contributions to the literature of medicine. He believed that women should hold a position on a level with that of men, as their functions and attributes were as necessary to the existence and maintenance of the human species as those of men, but that their vocation should be the rearing and fostering of children. This vocation rendered them everywhere and always the equals of men. Since the number of marriages was diminishing every year, they had necessarily been driven into seeking other duties. Their entrance into medicine, however desirable it might seem to them, menaced not only their own interests but those of humanity at large. Although their opportunities had been abundant, they had never advanced medical science. Midwifery, for example, which for many centuries had been almost exclusively in their hands, had made no progress until it was taken up by men. They acquired great manual dexterity in the art, but little else. Women had never in any art created a masterpiece; even in music, which seemed properly to belong to them, they had done nothing that might immortalize a name. Their presence in colleges devoted to the instruction of men was a hindrance to the teachers and students. In laboratories they were unwelcome, as they were awkward and careless, the smallest difficulty discouraging them, and the assistants complained of women students who besieged them with inquiries upon trivial matters. Charcot, at whose clinics and lectures a large number of women attended, was quoted as saying that women thought more of themselves than they did of humanity; they consented unwillingly to be dressers in the hospitals and to carry out antiseptic treatment—occupations for which they would appear to be well suited. They were too ambitious and aspired to the front rank and to the most prominent positions.

As nature had barred their way to rôles which they ought to fill, Waldeyer concluded that women doctors had no future before them and would never be more than the exception. Notwithstanding this opinion, he gave them credit, curiously enough, for their excellent memories, their close attention to lectures, and their frequent ability to pass better examinations than men. Professor Waldeyer concluded by stating that if man was fitted to take the initiative for the production of new ideas, if he had more sequence in his actions and in his plans, woman, on the other hand, was more clearly endowed with other qualities not less precious. It was therefore in the interest of humanity that he wished that medicine might remain in the hands of men.

Notwithstanding Professor Waldeyer's attempt to show his freedom from bias, his address leaves a very different impression. He seems to have forgotten that midwifery was taken out of the hands of women at a period when they were regarded as being of low intellectual capacity, were allowed no educational advantages, and were made to occupy a very humble position in affairs. This we believe was the true cause for the assumption of midwifery by men rather than any inefficiency upon the part of women. Many will demur to the statement that in art and in literature they have accomplished nothing. Women have certainly during the past half-century produced work which will last as long as that of most if not all of their contemporaries. No matter how one may feel in this matter, it is certainly unjust to decide the question in such an off-hand manner. The argumentative and sentimental period of this social problem has passed, and only time can decide whether women should enter the medical profession or be restricted to the duties of a housewife. This decision can be reached by allowing them every opportunity to fight the matter to a successful or unsuccessful finish.

## *MINOR PARAGRAPHS.*

### A NEW JOURNAL OF EXPERIMENTAL MEDICINE AND PATHOLOGICAL ANATOMY.

We have received the first number of the "Archives de médecine expérimentale et d'anatomie pathologique," a new bimonthly journal edited by M. Grancher, M. Lépine, M. Straus, and M. Joffroy, under the direction of M. Charcot, and published by G. Masson, of Paris. It consists of 160 octavo pages, mostly made up of original communications. It is illustrated with four handsome lithographs, two of which are in colors. Judging from the contents of this number, the new journal will form an important element in contemporary medical literature.

### THE NAVAL MEDICAL SERVICE.

The "Report of the Chief of the Bureau of Medicine and Surgery" for the year 1888, although only a pamphlet of 60 pages, contains much matter of general interest to the medical profession, especially the notes on Alaska, by Passed Assistant Surgeon C. W. Rush and Passed Assistant Surgeon F. S. Nash; observations on an epidemic of sore throat at the Naval Academy, by Medical Inspector T. C. Walton; a report on the Museum of Hygiene, by Medical Inspector H. M. Wells; and extracts from a report on the Naval Hospital at Philadelphia, by Medical Director W. T. Hord.

### THE ARMY MEDICAL SERVICE.

The "Report of the Surgeon-General of the Army" for the year ending June 30, 1888, forms a volume of 291 octavo pages, made up chiefly of interesting statistical matter. As in the preceding report, the country is divided into several geographical regions characterized by situation or topography, a plan which, as we have before remarked, makes the report a valuable contribution to medical climatology. Under the head of "Special Remarks" we notice a suggestion by Surgeon E. McClellan, stationed at Jefferson Barracks, Missouri, that seems to us worthy of adoption. In view of the fact that recruits are usually ill prepared to withstand abrupt climatic changes, Dr. McClellan suggests that they be sent to regiments serving in the southern departments during the winter months, and to those stationed in the northern departments in summer.

### DR. KÁLLAY'S AERZTLICHER ALMANACH.

The issue of this useful publication for 1889 shows several improvements, notably a division into two dainty little volumes, so that those who prefer to carry about with them only the diary portion need not be encumbered with a thick book. Besides the usual contents of the other volume, it contains biographical sketches of Professor von Nussbaum and Professor Drasche, each accompanied by an excellent portrait.

### AN OPERATION FOR IMPROVING THE USEFULNESS OF A THUMBLESS HAND.

In an article in the "Deutsche medicinische Wochenschrift," 1888, No. 30, quoted in the "Centralblatt für Chirurgie," C. Lauenstein recommends that for the purpose of increasing the usefulness of a thumbless hand the metacarpal bones of the forefinger and of the little finger should be sawed through the middle and then both fingers turned inward, brought into opposition with the third and fourth fingers, respectively, and allowed to heal. Lauenstein had an opportunity of resorting to this treatment in the case of a sailor, fifty years old, who had lost his thumb. The result was that, after the operation, as Lauenstein had prophesied, the patient could use his hand for everything except holding a pen.

### A SPLINT FOR ANKYLOSIS OF THE KNEE.

Dr. E. Muirhead Little, Surgeon to the National Orthopædic Hospital, publishes in a recent number of the "Lancet" an article on a splint for the treatment of fibrous ankylosis of the knee. This splint is the result of an attempt to improve on the ordinary MacIntyre or other simple extension splint by adding an arrangement that shall tend to push forward the heads of the tibia and fibula as the extension proceeds. The splint is made of japanned sheet-iron. A sliding foot-piece enables it to be adjusted accurately to the length of the patient's leg. The upper and lower parts of the instrument are connected on each side by a short steel bar, about three inches long for the average adult. There is a rack-and-pinion joint at either end turned by a key. The upper pair of joints should be placed higher up than the condyles in order to increase the radius of the circle through which the head of the tibia moves, and thus, while extending the limb, to tend to force the articular surfaces apart.

The splint is applied so that the lower pair of rackwork joints are on a level with the tuberosities of the tibia. A square leather knee-cap holds the knee. Strappings and bandages secure the leg, foot, and thigh, the hamstrings having been first divided, if necessary. Extension is made by turning gradually the two upper racks. The lower pair are used to keep the splint adjusted to the leg, and to imitate the natural turning of the tibia. After the splint has been applied it should be removed only when absolutely necessary. The splint is made adjustable to any degree of subluxation and flexion by varying the degree of flexion and extension of the racks. It may be used to rectify displacement by applying it with the upper joints flexed and the lower extended in cases when, although the limb is fully extended, the tibia is subluxated.

## ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 12, 1889:

| DISEASES. | Week ending Feb. 5. | | Week ending Feb. 12. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 1 | 1 | 13 | 1 |
| Scarlet fever | 300 | 46 | 366 | 50 |
| Cerebro-spinal meningitis | 1 | 1 | 4 | 1 |
| Measles | 292 | 23 | 303 | 17 |
| Diphtheria | 193 | 44 | 195 | 59 |
| Small-pox | 0 | 0 | 0 | 1 |

**The Health of New York City.**—During the four weeks ending Tuesday, February 12th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Health Department: Typhoid fever, 41 cases and 11 deaths; scarlet fever, 1,292 cases and 195 deaths; cerebro-spinal meningitis, 10 cases and 7 deaths; measles, 1,231 cases and 93 deaths; diphtheria, 728 cases and 181 deaths; small-pox, 1 death.

**The Post-graduate Hospital.**—In addition to the purchase of the property 224 to 230, inclusive, the premises No. 222 East Twentieth Street have been leased for ten years, and will be occupied as a babies' hospital. The former babies' ward will be converted into a lying-in department.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 3 to February 9, 1889:*

Baxter, Jedediah H., Colonel and Chief Medical Purveyor, will, by direction of the Secretary of War, proceed to New York city on public business connected with the Medical Department, and on completion thereof return to his station in this city. Par. 17, S. O. 30, A. G. O., Washington, February 5, 1889.

Baily, Joseph C., Lieutenant-Colonel and Assistant Medical Purveyor, and Heizmann, Charles L., Major and Surgeon, are, by direction of the President, detailed as members of the Army Retiring Board at San Antonio, Texas, convened by War Department order dated January 16, 1889, published in S. O. No. 12, January 16, 1889, from Headquarters of the Army, *vice* Lieutenant-Colonel Edward P. Vollum and Major Francis L. Town, hereby relieved. Par. 15, S. O. No. 28, A. G. O., Washington, February 2, 1889.

Sternberg, George M., Major and Surgeon, will, by direction of the President, in pursuance of the authority contained in the provisions of the Act of Congress, approved March 3, 1887, "making appropriations for sundry civil expenses of the Government," etc., relating to the methods of preventing the spread of epidemic diseases, proceed to the island of Cuba for the purpose named in the letter of the President, addressed to the Secretary of War, April 17, 1888, and upon completion of this duty will return to his proper station and submit his report to the President. Par. 16, S. O. 30, A. G. O., Washington, February 5, 1889.

Sternberg, George M., Major and Surgeon, is, by direction of the Secretary of War, relieved from duty as attending surgeon and examiner of recruits at Baltimore, Md., to enable him to comply with the requirements of Par. 16, S. O. No. 30, of the 5th instant. Par. 4, S. O. 31, A. G. O., Washington, February 6, 1889.

Shufeldt, Robert W., Captain and Assistant Surgeon, having appeared before the Army Retiring Board at Fort Leavenworth, Kansas, in compliance with Par. 1, S. O. No. 4, January 5, 1889, from this office, will, by direction of the Secretary of War, repair to this city to await action on the proceedings in his case. Par. 12, S. O. 32, A. G. O., Washington, D. C., February 7, 1889.

Kilbourne, Henry S., Captain and Assistant Surgeon, having complied with Par. 2, S. O. No. 6, Department of the Columbia, will return to his station, Vancouver Barracks, Washington Territory. Par. 1, S. O. 9, Headquarters Division of the Pacific, San Francisco, Cal., February 2, 1889.

LaGarde, Louis A., Captain and Assistant Surgeon. The leave of absence granted in S. O. No. 290, December 13, 1888, from this office, is, by direction of the Secretary of War, extended three months. Par. 2, S. O. 31, A. G. O., Washington, February 6, 1889.

Thearns, Edgar A., Captain and Assistant Surgeon, Fort Snelling, Minnesota, will proceed without delay to Fort Pembina, Dakota, and report to the commanding officer of that post for temporary duty. Par. 3, S. O. 12, Headquarters Department of Dakota, St. Paul, Minn., January 31, 1889.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the week ending February 9, 1889:*

Hall, J. H., Passed Assistant Surgeon. Ordered to Naval Hospital, Washington, D. C.

Eckstein, H. C., Surgeon. Detached from the U. S. Steamer Adams and to wait orders.

Dixon, W. S., Surgeon. Detached from special duty at Baltimore, Md., and ordered to the U. S. Steamer Boston.

**Society Meetings for the Coming Week:**

Monday, *February 18th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Medico-chirurgical Society of German Physicians; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *February 19th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester (White Plains), N. Y.; Ogdensburgh Medical Association; Baltimore Academy of Medicine.

Wednesday, *February 20th:* Northwestern Medical and Surgical Society of New York (private); Harlem Medical Association of the City of New York; New Jersey Academy of Medicine (Newark).

Thursday, *February 21st:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *February 22d:* Yorkville Medical Association (private); New York Society of German Physicians; New York

Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

SATURDAY, *February 23d:* New York Medical and Surgical Society (private).

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## Obituaries.

**John Call Dalton, M. D., LL. D.,** died on Tuesday, the 12th inst., at his home in New York, at the age of sixty-four. For a number of months Dr. Dalton had been seriously out of health, being affected with renal disease, but his death was unexpected by most of those who knew him.

Dr. Dalton was born at Chelmsford, Mass., in 1825. He received both his academic and his medical education at Harvard University, being graduated in medicine in 1847. Early in his career he was appointed professor of physiology in the Medical Department of the University of Buffalo. In 1854 he accepted a similar appointment in the Medical Department of the University of Vermont. Five years afterward he was appointed professor of physiology in the Long Island College Hospital. In 1861 he entered the United States service as surgeon of a New York regiment, and afterward served as surgeon of volunteers almost until the close of the war. In the mean time he had been made professor of physiology in the College of Physicians and Surgeons. He continued to occupy this chair until 1883. He was made president of the faculty in 1884, and continued to be its president until the time of his death.

Dr. Dalton was the most renowned teacher of physiology that this country has ever produced. He was the first to illustrate lectures on this subject adequately by means of experiments and impromptu drawings. In the execution of the latter he was unrivaled. He had a peculiar talent for simplifying the intricacies of the subject and for expounding them in the clearest of statements. His best-known contribution to literature was his text book of human physiology, in which his excellence as a teacher is abundantly exemplified. Besides this work, he was the author of several valuable monographs, notable among which were his prize essay on the corpus luteum, his subsequent essay on the same subject published in "The Transactions of the American Gynæcological Society," of which body he was an honorary member, and his recent work on the anatomy of the brain.

Although Dr. Dalton was not a practitioner of medicine, he always manifested a lively interest in the affairs of the profession and was frequently heard in discussions at medical meetings, and his personal qualities endeared him to all with whom he came in contact.

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## Letters to the Editor.

### AN INEXPENSIVE CELL FOR GALVANISM.

207 CLINTON STREET, BROOKLYN, *February 4, 1889.*

*To the Editor of the New York Medical Journal:*

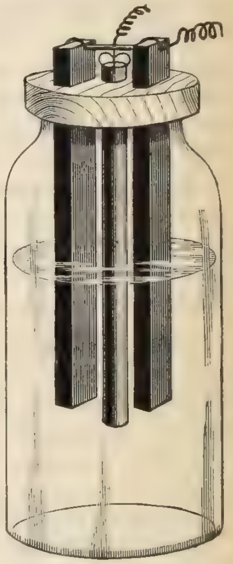
SIR: Under date of January 5th Dr. W. R. D. Blackwood writes in regard to my fruit-jar cell for electrolysis, and states that this and all chloride-of-ammonium cells are useless for electrolysis, and "will not act for more than a few minutes without the usual manganic depolarizer." The fruit-jar cell is essentially similar to the Law cell, as it has the same elements in the same fluid, the only dissimilarity being in the shape of the carbons and the shape of the jars. They have no manganic depolarizer, so that Dr. Blackwood's criticism applies equally to either as a class. He declares that they are of no use for electrolysis, notwithstanding my statement to the contrary, and notwithstanding the evidence of other gentlemen whose experience has been quite extended. In other words, the doctor claims a thing can not be done which others and the writer claim to have accomplished. Dr. A. J. C. Skene has used the "Law cell" for electrolysis, both at his office and in his sanitarium, for several years. Dr. Charles Jewett recommends its use in the article on the treatment of fibroid tumors by electrolysis, in Dr. Skene's recent work on the diseases of women. Dr. Robert Newman, one of the pioneers in this line, is using fifty "Law cells" for the purpose of electrolysis. There are probably many others who have used this form of cell with satisfaction.

Dr. Blackwood also found fault with the construction of the fruit-jar cell:

1. "The creeping incident to such cells will destroy the pasteboard cover in a day or two." I have used them for several months and the pasteboard covers were as good as new. I would not recommend the covers of pasteboard, because so much time is required to prepare them. I have had wooden covers cut out recently at a wood-turning establishment at a cost of a few cents apiece, and these are very convenient.

2. "The difficulty in handling the cathodes by one not skilled in construction will result in so many fractures as to raise the cost much above that of a good disc cell." One should bear in mind that carbon plates can easily be scratched through, but not *cut.* I have scratched through one with the point of a file in a few minutes.

3. "Wire can not be fastened to either electrode without clamps." I disagree entirely with the gentleman. If care is taken, as good a connection can be made without as with clamps. Some connections, of course, are detrimental, but they arise from careless workmanship. If it is desired to use a clamp, a small bolt with the nut will fasten it securely.



(The accompanying cut of the cell should have appeared in the article in which it was first described, "New York Medical Journal" for January 5, 1889, page 15.)

Having answered the objections raised by Dr. Blackwood, allow me in turn to criticise some loose statements in his letter:

"No Leclanché will act for more than a few minutes unless its carbon is fitted with the usual manganic depolarizer." There is no Leclanché cell that is *not* fitted with the manganic depolarizer; it is the essence of Leclanché's modification.

Again, the doctor says, speaking of my cell: "The form suggested will polarize rapidly when the resistance of the human body is intercalated in the external circuit. . . ." With a high resistance the cell will polarize less rapidly than with a low resistance, as is the case with other cells. In employing 100 milliampères my custom is to use my whole battery with the resistance of the rheostat interposed. By turning it on gradually the polarization is scarcely noticeable in short *séances.*

We object to the method of measuring the work done by employing the term coulomb. This indicates the amount of current multiplied by the time of using it. We do not know enough about the current to assume absolutely that a current of half the intensity of another will act in precisely the same way if continued for twice the time.

I have only to add that a gentleman having some mechanical ingenuity and time and patience can make a very excellent battery for electrolytic action. He can not obtain an ampère of current without using a great number, but we do not believe this is necessary, and we feel certain that two hundred milliampères should not be exceeded in the treatment. The writer has heard of one fatal case where a current of great intensity was used, and perhaps there are more of which we shall hear only from private sources.

I should be pleased to make an appointment to show my battery to any member of the profession who may be interested.

A. H. Buckmaster.

## Proceedings of Societies.

### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

*Eighty-third Annual Meeting, held in Albany, Tuesday, Wednesday, and Thursday, February 5, 6, and 7, 1889.*

The President, Dr. Samuel B. Ward, of Albany, in the Chair.

*(Concluded from page 161.)*

**The Technique of Vaginal Hysterectomy.**—Dr. J. B. Hunter, of New York, read a paper with this title, in which he said that any operation to recommend itself to the profession must be shown to have a small immediate mortality, and to have immediate and remote beneficial results sufficient to compensate for the risks incurred. Vaginal hysterectomy had taken such a place among operations. The principal dangers following it were shock, hæmorrhage, peritonitis, and septicæmia. The time spent in operation largely determined the shock which would succeed; the hæmostatic forceps was therefore an important adjunct to success. He preferred placing the patient on her back, at the edge of the table, with the limbs flexed and supported. He irrigated with a two-per-cent. solution of creolin, and introduced the largest Sims speculum. In separating the uterus from its attachments, scissors and forceps were used, and one or two strong silk ligatures placed on the large arteries. The tubes and ovaries were to be removed if they came into sight. The vagina was then lightly packed with creolin gauze with strings attached, and the projecting handles of the forceps were packed about with cotton. The forceps might be removed after forty-eight hours. Six, eight, ten, or even fourteen, forceps were used, but scarcely any ligatures. When the forceps were removed, the gauze would be found saturated with an odorless, serous fluid; a light tampon of gauze was to be put in then, but no injection was to be used until the fourth day, no speculum introduced, or vaginal examination made. The opening in the vault of the vagina slowly closed of itself. Recovery was often established in three weeks. He had not been troubled by the occurrence of sepsis or prolapsed intestine. Often less than forty-five minutes were needed for the operation. The forceps made more firm and permanent compression, favored rapid healing and drainage, caused no pain, and exerted little force or traction on the tissues. A Tait's forceps with a bite of an inch and a half was recommended.

**Office Photography with the Flash Light.**—Dr. H. G. Piffard, of New York, explained his methods of getting pictures of diseased parts and of symptoms capable of photographic representation, and exhibited a series of views by the stereopticon.

**Cranial Measurements in Twenty Cases of Infantile Cerebral Hemiplegia.**—Dr. E. D. Fisher and Dr. F. Peterson, of New York, presented a report of their work in this field, which Dr. Fisher read. In all these twenty cases they had found the total volume of the skull reduced on the side opposite the hemiplegia. The causes were blows received by the mother, shock, syphilis or other diathesis, cranial malformation, parencephalus or absence of cerebral tissue, and very commonly pressure from delayed labor; also blows received in the first two years of life where the child was sickly from alcoholism in the parents. It was possible to develop a brain so malformed to a certain extent. A rich diet and the muscular training of the opposite side of the body, combined with some mental discipline, were the chief means. He related a case where a boy had been taken in hand by his father under the direction of a surgeon when five years old. The boy had been then apparently imbecile, very cruel, disobedient, and indifferent to rewards or punishments. A course of muscular exercises had transformed him after about seven years into a lad with considerable moral nature and much ability in mathematics and the languages, although still deformed and epileptic.

Dr. A. Jacobi, of New York, remarked that emboli were as often the cause as any other of those mentioned. He emphasized the speaker's remark as to the danger in delayed labor. The interruption to circulation so produced was a potent cause of idiocy; also, when the child was born asphyxiated and did not at once breathe, the brain might be permanently damaged.

Dr. Fisher added that children with heads much narrowed often showed an inability to answer when questioned and to speak clearly, which corresponded to an arrested development of the temporal and temporo-sphenoidal regions of the brain.

**A Case of Intubation of the Larynx.**—Dr. W. Hailes, Jr., of Albany, read a report of a case of membranous diphtheria in which casts of the trachea were three times coughed up through the tube, nearly strangling the child at the time, but in which a recovery finally took place.

**The Causes and Increase of Blindness.**—Dr. Lucien Howe, of Buffalo, read a report from the committee appointed two years previously to make investigations in this line. They had found that the number of blind were rapidly increasing in proportion to population, and more so the further south one went, and especially in the States of Nebraska, Arizona, Nevada, and Dakota. Most of the existing blindness was due to infectious diseases of the cornea and conjunctiva. Emigration was increasing the number of those going about with infectious conditions of the eye, such as trachoma, which was common among the lower Irish. They urged that the duty of cleaning the eyes of children after birth should be made more familiar to the public. In asylums and schools, children having such diseases should be quarantined. A similar regulation should be enforced in barracks and prisons.

**The Management of Cardiac Dilatation based upon its Ætiology.**—Dr. A. L. Loomis, of New York, read the paper. Twenty years ago cardiac murmurs were given great prominence. They were now considered of significance only in connection with the morbid changes which gave rise to them. To prevent dilatation by maintaining compensatory hypertrophy certain conditions must be met: first, the muscular tissue of the heart must be healthy; second, the heart muscle must receive a sufficient supply of good arterial blood; third, muscular waste must be rapidly removed from the body; fourth, the trophic nerves of the heart must be in a normal state. In studying the ætiology of dilatation the causes were divided into primary and secondary. Under the primary were impaired nutrition and extreme anæmia, degenerative changes in the heart muscle, excessive use of narcotics and venery, insufficiency of aortic and mitral orifices with obstruction to the circulation, atheromatous changes in the coronary artery, arterial sclerosis, and renal disease. Secondary cardiac dilatation, or that following hypertrophy, gave a less favorable prognosis. As a general rule, digitalis was indicated when there was commencing or advanced loss of compensation. If the failure in compensation was extreme and accompanied by dilatation, more or less venous stasis occurred. The essential therapeutic action of digitalis was to raise arterial pressure. If the urinary secretion was increased by the drug, its administration was safe; otherwise its use should cease. The indications for the use of strophanthus, convallaria, strychnine, arsenic, iron, and hygienic management also received attention.

**The Ætiology of Croupous Pneumonia.**—Dr. G. M. Sternberg, of the U. S. Army, read a paper with this title. He concluded, after investigation of the possibility of a microbic cause of the disease, that such a cause probably existed in most cases, but that the condition of the system of the individual determined whether it became active or not.

**Acoustics applied to the Human Chest in Physical Diagnosis.**—Dr. J. R. Leaming, of New York, read a paper on this subject. (See this Journal for January 26, 1889, page 85.)

**Hernia of the Pleura into the Neck.**—Dr. G. B. Fowler, of Brooklyn, read a report of such a case which had occurred in a sickly child from perforation of the right bronchus.

**On Expert Testimony.**—The President, in his annual address, gave an able review of the trials of the medical expert at the hands of lawyers, and of the reasons for misunderstandings and perversions of necessarily complicated truths which arose whenever a man trained in medicine attempted to impart his views to an uneducated audience. He suggested, as a partial remedy for the evils inherent to the present system by which lawyers handled the medical expert (of their own selection) and the expert put forward by the opposing lawyer entirely with a view to winning their case, that a board of three or more experts be appointed by the court, one or more being nominated by each of the opposing counsel and the odd member by the court; that these experts should be paid by the court and the charge equally divided; and that questions on medical matters should be submitted to and answered by the board in writing.

**Basedow's Disease.**—Dr. H. R. Hopkins, of Buffalo, read a paper thus entitled in which he concluded that the pathology of the disease was not known. The bulging of the eyes, sweating, and enlargement of the thyreoid often took place on the right side first. Anæmia was often marked and was perhaps the cause. The mental condition presented either extreme irritability or marked placidity and hopefulness. Females were affected much oftener than males. A neurotic taint was often hereditary. Cardiac dilatation and failure occurred in a few cases, but more often the health remained fair after years of rapidity of beat, which also remained after the other symptoms were relieved.

Dr. C. L. Dana, of New York, remarked that a symptom not to be overlooked was the peculiar tremor in these patients, and the diminished electrical resistance due to the moisture of the skin. In treatment he had succeeded best with strophanthus and iodide of sodium. With Dr. Holmes, he had been told, carbacetate of ammonia had given improvement in all cases in which it was tried. The sweating, nervousness, and tremor, together with any one of the three cardinal symptoms, were enough to base a probable diagnosis upon. Dr. A. Jacobi believed the disease connected with changes of a causative nature in the thyreoid gland.

**Chronic Headache.**—Dr. C. L. Dana, of New York, read a paper with this title. His conclusions were: 1. Pains in the head were either neuralgias, migraines, or so-called headaches. 2. The latter were seated in or referred to the trigeminus, the vagus, or the four upper cervical nerves, in their periphery. 3. Neuralgias might be either central or in the nerve-trunks. 4. Migraine was a periodical discharging neurosis which affected not only the sensory cranial nerves, but also motor, vasomotor, and secretory nerves. 5. The most frequent seat of headache was the dura. Headaches were far more common between the ages of eight and twenty-five years, and thirty-five and forty-five years. 6. The chronic functional non-migrainous headaches might be classified as hæmic or anæmic and diathetic; toxic, as from alcohol, lead, or tobacco; dyspeptic; neurotic; and reflex, as from the tonsil, middle ear, pelvic organs, or bowels. 7. Frontal headaches were never due to conditions in the pelvis, ear, or pharynx, and rarely to dyspepsia, cerebral syphilis, or epilepsy. 8. Vertical headaches were rarely due to toxic or rheumatic causes, but were oftener anæmic, or neurotic, as from exhaustion. 9. Occipital headaches were never due to anæmic and rarely to toxic conditions. 10. Reflex headaches, including those of ocular origin, were best treated by constitutional measures. 11. The headaches resulting from overwork were apt to be neurotic, dyspeptic, and rheumatic combined, and were best treated by antipyrine, warmth, muriate of ammonia, chloral, rest, and diet.

Dr. I. N. Goffe, of Cazenovia, spoke of relieving sick-headache with cannabis indica; and Dr. O. B. Douglas, of New York, recommended phenacetin for persistent neurotic and malarial headaches.

Dr. C. M. Culver, of Albany, remarked that undue action of the ciliary muscles produced a fronto-temporal headache, and astigmatism a temporal headache, while defective action of the extrinsic muscles of the eye or of those of convergence produced an occipital headache.

Dr. E. D. Fisher, of New York, thought organic could not practically be separated from functional headaches, and that localizations were not reliable except in case of pachymeningitis. All the causes varied in effect and probably agreed only in producing a weakened state, from which, according to the nervous make-up of the individual, local anæmia and hyperæmia resulted in varying portions of the dura and brain.

**A Contribution to the Surgery of Cerebral Tumors.**—Dr. L. S. Pilcher, of Brooklyn, in a paper thus entitled, related the history of a case where a man had received a violent blow in the lateral occipital region from the results of which he had become scarcely more than a brute. The reader had made a large opening at that point, and had found the brain normal. In order to close the wound it had been necessary to slice off a large knob of cerebral substance which forcibly protruded, and death had followed in a few days. Autopsy had revealed a large gliomatous tumor in the fronto-temporal region, just opposite the point where the injury had been received.

**The Uses of Galvanism in Gynæcology.**—Dr. W. E. Ford, of Utica, read a paper with this title in which he endeavored to show from results obtained in his own practice that electricity could be made an agent of wide usefulness in gynæcology if the proper currents were obtained; and that the quality and action of the galvanic current depended equally on the total area of surface of the metal exposed in the solution, and on the number of cells used.

**Inferior Dental Neurectomy.**—Dr. J. H. Glass, of Utica, in a paper with this title, described an operation for severing the inferior dental nerve at its entrance into the dental foramen by an incision made from the inside of the mouth. He had thus cured neuralgia in the nerve which had nearly led the patient to commit suicide rather than endure the pain longer, and without disfigurement.

**Alopecia Areata.**—Dr. L. Duncan Bulkley, of New York, in a paper with this title, concluded that the disease was essentially of nervous origin and non-infectious. If there was a parasite it was dependent on a peculiar constitutional state in the body to allow of its growth, and this state was controlled entirely by the nervous system. Successful treatment was therefore directed to diet, rest, and hygiene.

### *Surgical Section.*

**Excision of both Elbow Joints.**—Dr. J. P. Creveling, of Auburn, read a description of an operation used in the removal of two syphilitic elbow joints.

**The Orthopædic Treatment of Tubercular Diseases of the Knee in Children.**—Dr. V. P. Gibney, of New York, in a paper with this title, urged that diseases of the knee joint should receive more attention as soon as a difference in the two knees could be discovered. Since the tubercular foci were then multiple, there could be only general treatment. He applied a light, thin bandage of plaster of Paris to prevent deformity, and also Thomas's perineal truss or crutch in those old enough to walk. He personally preferred rest to passive motion. Jointed splints were placed on either side of the knee; the plaster bandage was not applied over the cap of the knee, but very thickly in the popliteal space. In the latter situation it was then cut through, and, by placing pieces of cork in the cleft, the knee could, day by day, be made to take the extended position. He had other contrivances in connection with this by which any tendency to luxation, subluxation, or genu valgum could be corrected.

Dr. A. M. Phelps, of New York, agreed that immobilization was the first law in treating the disease. He regarded spasm of the muscles as a leading element in producing trauma and deformity of the joint surfaces. He therefore made his plaster splint include the ankle, cut the ham-string tendons, and used a combination of the Thomas and Sayre splints.

Dr. B. Bartow, of Buffalo, employed a leather-case splint, the straight position, and rest, but began passive motion as soon as the spasm of the muscles had ceased.

Dr. John Ridlon, of New York, had found it necessary in many cases, in order to prevent the pounding of the articulations on each other, to carry the bandage from the toe to above the hip. He thought no traction could be applied which would admit of the patient's walking during the continuance of spasm, even if this continued several years.

Dr. Gibney agreed that traction could not materially affect the state of the joint, but he thought we could not keep most patients in the horizontal position till the spasm had subsided, where that continued long, and that bandages passing above the pelvis would prove too troublesome to keep clean or renew when soiled.

**Kocher's Method of reducing Subcoracoid Dislocation of the Humerus.**—Dr. C. A. Powers, of New York, read a paper with this title, and demonstrated practically also the manipulations needed to reduce without ether or pain this commonest of dislocations at the shoulder. The flexed arm was to be grasped at the elbow with one hand, and the wrist with the other. The elbow was then brought close to the side of the chest and slight traction made. The arm was then rotated outward, until in line with the body, from side to side. The elbow was then lifted upward toward the middle of the chest, and the hand finally carried over toward the opposite shoulder. As used by twenty-five different men in the Chambers Street Hospital in the past five years, it had succeeded on the first attempt and without ether in ninety-eight out of one hundred and twenty-nine cases in which it had been used. He put the patient in the dorsal position, and had an attendant hold the opposite shoulder down.

Dr. Vanderveer, of Albany, remarked that his preceptor, Dr. Gunn, had published, thirty years ago, in the "Peninsular Journal" in Michigan, an account of the anatomy and pathology of this form of dislocation, and of manipulations by which it could be reduced, practically identical with Kocher's.

Dr. R. F. Weir and Dr. R. Abbe, of New York, testified as to the value of the method.

**Surgery of the Spine.**—Dr. R. Abbe, of New York, read a report of two cases in which he had opened down upon the spinal cord, had excised diseased parts or growths attached to it, and had obtained rapid recovery and relief of symptoms. He added an account of other operations in the literature of the subject. In the first case the symptoms of spinal tumor had developed, anæsthesia of the lower half of the body, twitchings in the legs, a girdle sensation, pains, incontinence of urine and fæces, and a marked hectic and progressive wasting. He had exposed the cord by cutting away the spines and laminæ with the rongeur, and had found and removed a large degenerated tumor. The patient had at once recovered.

In the second case an ascending neuritis had spread up the ulnar nerve from a bone disease of undetermined nature in the right hand. The pain had been violent and had persisted in spite of medical, electrical, and surgical treatment, including nerve stretching, undertaken by a large number of physicians in succession. Amputation of the arm high up had finally been performed, but the pain had not been changed in quality by this proceeding; the patient had developed tremor and other general nervous symptoms, and half a grain of morphine at short intervals had scarcely mitigated his suffering. He had first exposed the spinal cord as far as the dura, and severed the sixth and seventh cervical nerves on the right without the foramina, but afterward the old pain had returned unabated. He had then opened the dura (without ether), evacuated the spinal fluid, and severed the posterior roots of the seventh and eighth spinal nerves, by which at the time great pain had been caused. The least touch on the posterior columns of the cord had caused exquisite pain through the whole body below that point. After this operation the pain had been markedly lessened, so that the morphine had been discontinued. Under the microscope the nerve roots had been found changed by inflammatory exudation. The dura of the cord had been found not sensitive.

Dr. V. P. Gibney, Dr. R. F. Weir, and others discussed the operation, and the possibilities of spinal surgery in spina bifida, spinal sarcomata, injuries and dislocations of vertebræ, and some forms of Pott's disease. As in the brain, operations in which the dura was not opened were not complete.

**On the Management of Hip-joint Disease.**—Dr. A. M. Phelps, of New York, read a paper thus entitled and showed the apparatus he used. He considered the reflex spasm caused by the inflammation in the joint as mainly causing changes in the joint by pressure of the opposed surfaces. He relied on immobilization and extension and did not fear ankylosis; he put the whole body in a case-splint until the inflammation had subsided. Then he fitted an extension and abduction splint by which traction was made in the line of the neck of the femur and which also acted as a hip-crutch. All abscesses were to be incised, scooped out, and washed.

Dr. V. P. Gibney advocated a simpler apparatus which the patient could adjust himself, so that he could go away to a suitable climate and otherwise get the treatment necessary in any other form of tubercular disease.

**On the Treatment of the So-called Perityphlitic Abscesses.**—Dr. R. F. Weir, of New York, read a paper with this title in which he endeavored to show the really intraperitoneal nature of the beginning of the process and the wisdom of operation before septic symptoms appeared. He concluded:

1. That fæcal accumulation and cæcal perforation were not to be regarded as causes of the affection.

2. That absolute rest and sedatives, not purgatives, were likely to relieve an impending attack; such attacks might return several times and end in an abscess, but they might entirely cease.

3. That most cases tended toward perforation and gangrene, but that pus formed first inside the peritoneal cavity. The inflammation spread with each attack toward the adjacent bowels. It sometimes made a ragged perforation backward through the peritonæum.

4. That if a tumor was detected, it should be opened as soon as signs or symptoms appeared showing that pus had formed.

5. That when the symptoms showed an increase of the local peritonitis for thirty-six hours running, the danger from an incision was less than from expectant treatment.

6. That if general peritonitis was suspected it could be shown to exist or not by a fine needle thrust deeply into the hypogastric region or by an exploratory incision.

7. That if general peritonitis was found, irrigation and drainage without handling was best. Only one in twenty-five had recovered by treatment after suppurative peritonitis had appeared; all his six cases had died. Treves cured suppurative arthritis by simple irrigation.

8. That many deaths following operation were not due to suppurative peritonitis, as he had demonstrated at autopsies. These patients had apparently died of paralysis and obstruction in the intestine resulting from the septic process and from persistent vomiting. Washing out the stomach under these circumstances sometimes re-established peristalsis in the intestine, and saline purgatives were also in order.

9. Enterotomy was to be entertained in certain cases.

10. After an attack had lasted twenty-four hours the sooner it was operated on the better; but even where attacks were soon recovered from, sometimes, in time, the abscess burst. Pus formed more rapidly than was supposed; he had known a large grumous pus cavity to form in fifteen hours after pain first appeared, it being the third attack. Mackenzie was wrong in saying that a repetition of attacks made invasion of the peritoneal cavity less likely.

**Considerations concerning the Operation for Hard Cataract.**—Dr. H. D. Noyes, of New York, in a paper thus entitled gave an elaborate review of what cases were suitable for operation, the time to operate, the method, details of management, and accidents and their remedies.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Meeting of December 24, 1888.*

The President, Dr. A. S. Hunter, in the Chair.

**Cerebral Syphilis.**—Dr. R. N. Parsons read a report of a case which illustrated the necessity of an early, long, and thorough treatment of syphilis. The patient, a man of forty-five, had suffered from loss of appetite, poor sleep, and depression, so that he feared "brain-softening" from overwork and anxiety. He had been stupid and excitable, or drowsy and irritable, by turns; his ideas had been confused; a feeling of faintness at times troubled him, at others a loss of speech or temporary unconsciousness. Subsequently there had been *grand mal*, succeeded by *petit mal*, and he had died shortly afterward, it being too late for successful treatment. The autopsy showed extensive syphilitic changes in the brain.

**The Treatment of the Diseases of the Nose by the General Practitioner.**—Dr. N. S. Roberts, in a paper with this title, urged the importance of the diseases of the nose, and their far-reaching effects on the general health. He thought too little attention was paid to them by general practitioners, especially when it was considered how perfectly accessible modern instruments had made the nose and its connected cavities. He gave instances where asthma, hay fever, headache, neuralgia, disturbed vision, vertigo, and other complaints had each been found due to easily cured conditions of the naso-pharynx.

**The Treatment of Puerperal Endometritis by the Dull Curette.**—Dr. E. H. Grandin read a paper with this title. (See page 171.)

Dr. J. E. Janvrin thought the points made by Dr. Grandin practical and well taken. In his own experience in confinement at full term the curette had never been called for. He should suppose that in many cases of abortion or miscarriage where a portion of the membranes was retained, the curette would be an excellent means of cleaning out the uterus, and he would think it justifiable to use it before any symptoms of septicæmia appeared. The dull curette—even the sharp curette—was quite safe in trained hands. He would advise washing out once after using the curette.

Dr. A. F. Currier took issue with Dr. Grandin as to the non-advancement of the science of obstetrics, and instanced the late introduction of the axis-traction forceps, the improved Cæsarean section, and Tarnier's method of sustaining prematurely born children. He was in favor of exploring with the curette as soon as three or four washings failed to destroy a fœtid odor in the lochia; but when a case was first seen late in the process, he would use the curette at once. French journals had lately been recommending the scraping out of all uteri after confinement, but this was an extreme. But in all cases where there was any doubt, by going over the uterine mucous membrane with a large wire curette, he could go away feeling sure that nothing was left which might afterward cause him trouble and regret.

Dr. R. A. Murray thoroughly approved of curetting the uterine cavity in all cases of septic endometritis, as evidenced by pain on pressure, temperature, and fœtor. When the finger, placed in the cervix just after the vagina was cleaned, came away with a bad odor, he went in with the curette. Washing out was hardly more than a palliative measure; at least it had no power to dislodge shreds and clots. On this account it had to be repeated many times in some cases. In using the curette, a finger should always precede to explore the cavity and to guide the instrument, and the uterus should be pressed downward by a hand on the abdomen. A brush for the same purpose as the curette was used by some with doubtful advantage. Pelvic abscesses, salpingitis, adhesions, and abscess of the ovary, which so often followed a confinement and subsequent endometritis, and which frequently made necessary a dangerous operation in order to save life, might be made far less common by a timely use of the curette. The uterus was more accessible to curetting and washing out with the patient on her back than on her side. After the operation we might expect the uterus rapidly to contract and the discharge to lessen in amount and to improve in quality.

Dr. Malcolm McLean, after curetting, wiped out the uterus with a piece of absorbent cotton dampened in a carbolic solution.

Dr. A. M. Jacobus discussed the question of the immediate treatment of abortion, when the woman was still bleeding. He preferred himself not to wait at all, but to remove bits of placenta remaining with a polypus forceps. Immediately after the escape of the fœtus, however, it was better to tampon the cervix for a few hours, but the curette should then follow.

Dr. John Messenger, speaking from a long and extensive obstetrical practice, thought prevention as important as cure, and had always directed his attention to securing a healthy condition in the uterus previous to the woman's delivery, using such drugs as actæa racemosa, viburnum, or stillingia for this purpose, and giving helionas after delivery to aid involution (instead of ergot), and, in case of a weak back, cimicifuga. He believed curetting not without serious danger, especially if done by practitioners who were not also trained surgeons.

Dr. J. L. Morrill and Dr. B. P. Austin strongly indorsed curetting for puerperal endometritis, advising a careful exploration in all cases of doubt before ergot was given, the finger preceding the instrument always.

## NEW YORK SURGICAL SOCIETY.

*Meeting of December 12, 1888.*

Dr. Charles K. Briddon in the Chair.

**Successful Operation for the Cure of Ventral Hernia.**—Dr. J. A. Wyeth presented an Italian woman, aged thirty-five, who had borne seven children. During her last pregnancy she developed ventral hernia, which reached an enormous size, so that it contained at least half of the small intestine. She entered Mt. Sinai Hospital, where the reporter operated on October 30th, excising the hernial sac, together with a large piece of the redundant skin, and closing the peritonæum, recti muscles, and fascia with a single row of Chinese twisted, interrupted silk sutures, the wound being about fourteen inches in length. The patient's bowels were moved on the third day, and the sutures were removed at the time of the first change of dressing (on the tenth day), the union being perfect.

**Obscure Injury of the Elbow.**—Dr. Wyeth presented a male patient who last July fell fourteen feet, striking upon the outer side of the left arm. The movements of the forearm were almost entirely suspended. The reporter thought that the radius had been dislocated downward and backward. There were no evidences of fracture now, although they may have been present at the time of the accident. The speaker intended to attempt reduction under ether, or, this failing, to perform arthrotomy.

Dr. Lange thought that there was originally a T-fracture, the external condyle being separated, but that there was no evidence of luxation.

**Peculiar Congenital Deformity in an Infant.**—Dr. Lange presented an infant two months old having four fingers on one hand and five on the other, one of the latter being a rudimentary finger which might be regarded as a thumb. The left shoulder joint presented a rare deformity; the acromion process could be felt distinctly and seen protruding, while the head of the humerus was felt in the infra-spinous fossa. There was evident shortening of the humerus, with a considerable degree of inward rotation. In most of the similar reported cases there was paralysis, which was absent in this instance. The deformity may have been due to some unusual pressure during pregnancy. Delivery was normal and spontaneous. There was little prospect of relief by an operation, as the glenoid cavity had doubtless undergone changes. There was no syphilitic history.

**Dislocation of the Head of the Femur into the Obturator Foramen in an Infant.**—Dr. Lange also presented a child, aged seventeen months, who when six weeks old had "pneumonia and convulsions," after which her left leg was found to be rotated outward and abducted, and was apparently longer than the right. Flexion was possible up to 160°. The leg could be rotated outward until the sole of the corresponding foot could be placed in the axilla. Every movement was possible except adduction. The head of the femur could be felt between the adductors; there was some paresis of the latter muscles, which might be due to pressure of the head upon the obturator nerve. The dislocation was doubtless due to relaxation of the ligaments and caused by sudden and violent muscular contraction. The treatment would consist in reduction under an anæsthetic. Probably a bloody operation would become necessary.

Dr. Wyeth asked if the child had presented by the breech; he had known of a fracture of the femur occurring during a difficult breech-delivery.

Dr. Lange replied that the presentation was a vertex one and the delivery rapid and easy, according to the mother's statement. He had only seen the child about a week ago at his office.

**Successful Case of Nephrectomy for Pyonephrosis.**—Dr. Lange showed a patient (with the specimen) and related the following history: The man, whose father died of locomotor ataxia and his mother of phthisis, was never ill until eight years ago, when he began to suffer from attacks of frequent micturition and vesical tenesmus. In the fall of 1886 he had a sudden chill, accompanied by pains in the loins and bladder. After passing some blood he felt relieved. He was first seen by Dr. Lange in the middle of February, 1888, in consultation with Dr. Stimson and Dr. Loomis. He had been treated by Dr. Loomis for pyonephrosis of the right kidney. The patient was confined to his bed and was in very poor general condition, so that it was decided to drain the kidney through a lumbar incision. On exposing the organ, however, it was found to be so extensively diseased that the reporter removed it. Koenig's oblique incision along the crest of the ilium was added to the ordinary lumbar one, which greatly facilitated the removal of the kidney. A temporary elastic ligature was placed around the pedicle. The latter probably became vascularized, as it was seen at the bottom of the wound some time after the operation, covered with small reddish points of granulation, and was never expelled. The ligature had to be removed at the end of four weeks, and a fistula remained, which eventually healed. The patient had a slow convalescence, being in a condition of acute mania for two weeks, so that he required two attendants. He was now in good health, his urine being quite normal.

In reply to a question by Dr. Weir, the speaker replied that the patient's mania could not have been due to iodoform-poisoning, as that drug had not been used in powder; the wound was packed lightly with weak iodoform gauze for the first twenty-four hours. There was very little elevation of temperature during the delirium, although the pulse was greatly accelerated.

**Cystic Kidney removed by the Lumbar Incision; Recovery.**—Dr. Lange showed a specimen of cystic pyonephrotic kidney of unusually large size. It developed on the left side, and reached the size of a man's head. The patient (who had been under the care of Dr. Waldstein) had had no pain, but only gradual loss of strength, and detected his tumor accidentally. The relations of the colon to the tumor had been satisfactorily established by inflating the gut by the aid of a stomach-tube introduced into the rectum. The incision was very long—longitudinal lumbar with two cross-incisions along the border of the ribs and the crest of the ilium—and it was necessary to resect a portion of the eleventh rib. There were several separate cysts, containing a thick, viscid, purulent fluid, which were emptied in turn. The operation lasted between two and three hours, and the patient had made a good recovery. The reporter said that he always performed retro-peritoneal nephrectomy when he feared infection; in the case of large tumors it might be necessary to open the peritoneal cavity.

Dr. Weir asked the reporter why he had departed from the usual custom of performing nephrotomy as a preliminary step to nephrectomy.

Dr. Lange replied that in a number of cases he had tried to preserve a diseased pyonephrotic kidney by limiting the operation to nephrotomy, but patients generally lost more than they gained, in consequence of the prolonged suppuration. The only advantage was that it was easier to do nephrectomy subsequently. In only one instance did he succeed in saving a kidney by draining it. It depended upon the degree of disorganization whether the organ ought to be removed or not.

Dr. Weir said that experience had taught surgeons that in the case of patients who were in bad condition nephrotomy offered the better chance of recovery than primary nephrectomy. In some cases, however, the abscesses were separated from one another, or did not communicate with the general cavity of the pelvis of the kidney; in such, immediate nephrectomy was preferable.

Dr. Lange said that both of the cases reported belonged to this category. When there was one or several abscesses in the kidney which could be opened and drained, he would not remove the organ.

Dr. Abbe asked if the ureter was separated from the vessels when the elastic ligature was applied.

Dr. Lange replied that the rubber cord was thrown around the pedicle *en masse*, but that he always endeavored to separate them with silk ligatures before removing the cord. He did not tie the single vessels separately.

Dr. Briddon said that he witnessed the operation in the second case. The tumor resembled a large fibro-cyst of the uterus, the central cavity containing not less than a quart of fluid.

Dr. Wyeth approved of the transverse incision where the tumor was very large.

Dr. Briddon said that he had been surprised at the facility with which the kidney was removed through this incision.

Dr. Wyeth referred to a case in which he had gained sufficient room by making a T-shaped incision.

**Excision of the Superior Maxillary Nerve for Tic-douloureux, Sequel to an Extraordinary Cerebral Injury.**—Dr. Abbe presented a male patient upon whom he had successfully operated six weeks before.

The man's unique injury had been reported in detail by Professor Zenner, of Cincinnati, in the "Medical Record," October 10, 1885. It was very briefly as follows: In July, 1885, while lighting the gas in a millinery show-window, he fell and was pierced in the neck by a sharp upright iron rod used for holding hats. The rod entered under the right jaw and went upward, inward, and backward. It stuck so tightly, presumably in the bone of the base of the skull, that it took "a forcible effort by a powerful man" to remove it. It was at once observed that he could neither speak nor use his right arm or leg.

Professor Zenner saw him half an hour afterward and found complete paralysis of the right upper and lower extremities, of the tongue, of the muscles supplied by the lower branches of the facial nerve on both sides, and that he could neither swallow nor utter a sound. He was conscious, but restless and in much pain on the left side of the face. Later, anæsthesia was observed of the upper two branches of the trifacial nerve, which was probably present from the first. During one week he was nourished *per rectum*, but began to swallow a very little and to speak a few sounds a few days after the accident. In two weeks he could speak single words fairly and could walk by the aid of crutches, though there was still paresis of the right extremities. There was constant driveling of saliva. At six weeks his hemiplegia was no better.

Hemianæsthesia of the portions supplied by the fifth nerve—namely, the entire half-face and neck and scalp, except the lower half, the ear—was now present. The subjective sensations grew worse. Constant pain was in the left half-face. Polyuria set in. Excessive flow, with sp. gr. 1·010, and no sugar. This was controlled after a while. The right foot dragged badly, and the hand had feeble flexion and almost complete paralysis of extension. Slight paresis remained on the right side of the face, but no aphasia.

The diagnosis was made of a lesion of the pons and crus, with injury to the emerging fifth nerve from a penetrating wound of the basis cranii, giving crossed paralysis—viz.: right hemiplegia, with left facial hemianæsthesia. The patient since 1885 had been examined and lectured upon by the most eminent neurologists, both in New York and Germany, where he had been during the past year in search of relief from the tic-douloureux. Finding no encouragement, he had attempted to take his life by a pistol wound of the chest, the mark of which he bears.

He lately came under the care of Dr. Græme M. Hammond, who referred him to the reporter. Before operation he was shown by Dr. Abbe to the Surgical Society and showed the following condition: Absolute facial anæsthesia of the left side, the ocular conjunctiva bearing the finger to be rubbed about within the lids without noticing it. The nostril, lips, and mouth utterly insensitive to the prick of pins. The sense of taste and smell were gone on the affected side. The right foot showed a slight trace of the muscular weakness. The right arm and hand responded slowly and poorly to volitional attempts at flexion and extension, and, on attempted rapid or powerful actions of this limb, the patient experienced a sharp respiratory spasm, ending in a species of snort, which seemed to be explained by an interruption of the message at the site of the cicatrix between the surface of the convolution and the hand, giving a reflex irritation to the respiratory center. It was the opinion of the late Dr. Sands, who among others saw him in consultation, that excision of the nerve in front of the supposed cicatrix could hardly be expected to relieve the neuralgia. However, as only one branch was neuralgic, while all were anæsthetic, Dr. Abbe decided to operate.

On October 20th he removed the superior maxillary nerve through a vertical incision in the cheek by Carnochan's method, finding little difficulty in breaking through the front and back wall of the antrum and cutting off the nerve at the foramen rotundum. Meckel's ganglion was broken up by lacerating the tissues in which it was imbedded.

The wound healed promptly without suppuration. The neuralgic pain was at once completely relieved and has not returned. Furthermore, an unexpected and almost inexplicable sequel has ensued, in that sensation has returned completely over the entire side of the face, except in the immediate vicinity of the scar, the ocular conjunctiva, lower lid, and part of the upper lip. Careful tests of smell and taste made by Dr. Hammond and Dr. Abbe show that he has partially recovered both faculties on the affected side.

The patient, as shown, was in excellent health, free from pain, and experienced only slight disability of the right arm, with anæsthesia about the scar on the cheek.

**The Complication of Subluxations with Fractures of the Femur.**—Dr. Kammerer read a paper with this title. (See page 175.)

Dr. Weir cited the case of a very stout woman who was sent to the New York Hospital seven weeks after suffering a thyreoid dislocation of the femur. In attempting to reduce the dislocation by Bigelow's method, he fractured the thigh-bone below the trochanter. As he was unwilling to perform a cutting operation to effect the reduction of the displaced hip, the fracture was treated in the ordinary manner and the patient went home at the end of the fifth week. Nothing was heard from her for several months, when her physician reported that she was walking with only a slight limp. The speaker had intended, in case the attempt at reduction had failed, either to reduce the dislocation by a cutting operation or to do osteotomy. He had had a case of fracture of the head of the humerus complicated with dislocation in which the latter was reduced by traction and manipulation, by the latter principally. In another case of compound fracture of the shoulder with dislocation, the upper fragment was drawn into position with lion-forceps.

## NEW YORK CLINICAL SOCIETY.

*Meeting of November 23, 1888.*

The President, Dr. J. West Roosevelt, in the Chair.

**Fresh Air and Bone Production.**—Dr. R. Abbe presented a case showing the influence of pure air and hygiene in determining the formation of bone. The patient, a boy of six years, had had a tuberculous white swelling of the knee joint. Dr. Abbe had performed resection two years before, cutting away the diseased bone and leaving only a shell of healthy bone behind. The condition of the knee, however, had continued bad, fresh sinuses breaking out and the tubercular process going on to honeycomb the remaining bony structures of the joint until it appeared likely that amputation would before long be inevitable. He had decided, however, to make trial first of rest and country air. The child had been sent out of the city and been kept outdoors, and as a result a remarkable solidification had taken place in the joint, the sinuses had healed, and the boy had a good leg on which he could walk or run with but little inconvenience. Dr. Abbe regarded the case as an admirable result in conservative surgery, and as showing how powerfully hygiene influenced the growth of bone in a joint, even when riddled by tuberculous caries. The boy had shown no signs of tubercular deposits elsewhere. Bacilli in countless numbers had necessarily been disposed of by the body at the same time that the structures about the knee joint had healed and the general health had been restored.

Dr. B. F. Curtis presented a young man whose knee joint he had resected last September for tuberculous caries. The patient had been troubled with his knee for four years previously. On admission to St. Luke's Hospital the knee was much swollen and the patient in a markedly hectic state, the temperature reaching 102° to 103° every afternoon, so that a pulmonary complication was suspected. In the resection that was at once performed it had been found necessary to remove only the synovial membranes and a thin layer of bone. The knee was fastened together with awls in a slightly flexed position. The wound healed by first intention, and complete recovery was obtained both in the joint and in the general health.

Dr. Abbe remarked that a slight flexion of the limb after resection gave always a more useful member. He had taken care to secure it in the case previously presented. He thought primary union unusual after these operations.

The President thought there was no doubt but that the tuberculous deposits extended in all cases far outside the principal foci, and that all of them were never removed in our operations. Their presence in the neighborhood of the diseased bone, which the surgeon recognized as tuberculous and cut out, explained to him the prolongation of the process which was usual for some time after a resection, with its slowly healing sinuses and tenderness of the parts.

Dr. W. H. Katzenbach presented two patients with aneurysm of the thoracic aorta. He thought it remarkable what improvement was usually obtained from small doses of iodide of potassium, beginning with five grains daily and going up slowly to fifteen, always stopping at the point where coryza was produced.

**A New Treatment for Aneurysm.**—The President reviewed a plan of treatment for aneurysms which he and Dr. Abbe had used, and their accounts of which had been misunderstood. Following the lead of an English surgeon—Barwell—they had introduced into the sac a quantity of closely coiled piano-wire, and had then passed through the wire a strong electric current, causing the whole contents of the sac to clot about the loops of the wire. Clotting would not take place about the wire without a current, and, on the other hand, electro-acupuncture with needles did not lead to a clotting of the whole contents of the sac. Small clots formed about the tips of the needles, which fell off when the needles were withdrawn. In one instance he had introduced a hundred and fifty feet of wire by mistake. It had curled up inside without producing any disturbance. His method was to use the finest wire obtainable, coil it on a small spool, and run it into the sac through a hypodermic needle. He had used a current from thirty Smee's cells, of over fifty milliampères, and had continued it for fifteen to twenty minutes. In all cases marked relief of pain and pulsation had followed and continued for a considerable time, and the tumors had grown smaller. Coagulation could be experimentally produced in an egg in the same way. In a number of cases where this plan of treatment had been followed and marked relief obtained for a time, autopsies had shown a firm clot which, with the coils of wire, entirely filled the sac. In applying the current, in order to insure the discharge of the current within the sac, he coated the hypodermic needle with collodion.

**Labor delayed by Adhesions between the Membranes and Uterus.**—Dr. J. H. Emerson read a paper with this title. (See page 181.)

**Paralysis of the Third and Sixth Cranial Nerves following Moderate Doses of Quinine.**—Dr. H. C. Coe read the following account of a case occurring in his practice: Mrs. W., aged forty-five, entered the Cancer Hospital with extensive scirrhus of the left breast, the axillary and supraclavicular glands being greatly enlarged. He operated October 22d. Owing to a serious error in the preparation of the sponges, the wound suppurated so that he was obliged to open and allow it to heal by granulation. During the first two or three days there was an evening rise of temperature to 102°, but subsequently it did not rise above 100°. The pulse remained at 120 and higher for two weeks and was rather feeble, but under three-minim doses of tincture of strophanthus, four times a day, it was finally reduced. The wound soon granulated and convalescence apparently set in, except that at the end of the third week there was still a daily rise of temperature to 100°. After a review of the case, he had come to the conclusion that this daily febrile movement might be due to malarial toxæmia, of which the patient gave a clear history. Quinine was given in doses of five grains four times a day with a drachm of dilute hydrobromic acid. This treatment was begun November 12th, the strophanthus being discontinued. On November 16th it was noticed that the patient had internal strabismus of the left eye, with slight ptosis. It appeared, on questioning the patient, that ptosis with slight internal strabismus of the left eye had developed on a previous occasion after the continued administration of fifteen grains of quinine daily. He had at once suspended the drug, one hundred grains having been taken in all. The paralysis became more marked, so that two days later the patient could not see to walk or even to grasp objects. Then the strabismus had improved rapidly, the ptosis more slowly, till at the present time there was only a decided droop of the left eyelid and a slight squint. No treatment had been employed. It was unusual for such moderate doses of quinine to produce paralysis of the cranial nerves, and also, in the opinion of Dr. Starr, whom he had consulted, quite uncommon for ptosis to be associated with internal instead of external strabismus. No other symptoms of cinchonism had appeared.

**Subluxation of the Inferior Maxilla backward from Spasm of the Muscles.**—Dr. Coe also read an account of a case of this sort, and asked for any opinions which might throw light on this somewhat rare occurrence. A young married lady had lately consulted him on account of inability to close her jaws. She was of nervous temperament, but had no hysterical symptoms. In the state her jaws were then in she could not eat, but could talk with difficulty. On examination, he had found the jaws slightly parted and rigid, and the lower teeth some distance behind the upper. They could not be brought into contact. The muscles of the jaw were rigid and evidently in spasm. He had been unable to detect any unnatural bony prominences. The patient had borne his unsuccessful attempts to replace the jaw with considerable fortitude, although evidently in great pain. He had put her under ether, when, as soon as general muscular relaxation was complete, he had easily lifted and slipped the jaw into place, into which it returned with a snap, and he had there secured it with a bandage. After recovering from the anæsthetic, the patient had removed the bandage, and had suffered no further inconvenience for some time. It appeared that she had retired the previous night feeling very nervous and tired, and that the accident had occurred while she was asleep. She informed him that it had quite often happened, when she was tired and lay down, that her jaws seemed to become loosely articulated and the lower one to become displaced; but if awake at the time this happened, she was able to get the jaw into place again, the reduction being accompanied with a sound and causing her considerable pain. However, she said, on two or three previous occasions after going to bed in a state of considerable nervous excitement or of exhaustion, her jaw had become dislocated so that she had not been able to replace it, and had been compelled to summon a physician. The accident always occurred in the night after she was asleep, and was accompanied by a snap which awakened her. At the same time there would be considerable pain over the articulations. Attempts to replace the jaw without an anæsthetic had been invariably unsuccessful, giving rise to severe pain and an exaggeration of the muscular spasm. She had worn an apparatus for some time, but it had not prevented a recurrence of the accident. Several months after he had first seen the patient (who had been perfectly well in the mean time) she became very much tired one day by preparations for a journey, and that night her jaw again became displaced in the same manner. He had again reduced it under ether and had noticed that it was necessary to hold it forward in place till she became conscious enough to exert her will power again, as it tended to drop back by its own weight when the muscles were relaxed.

The speaker had no doubt that the condition had been one in which there was a subluxation backward, with a displacement of the interarticular fibro-cartilage, due to a peculiar laxity of the ligaments, especially the capsular ligament, and associated with a spasm of the muscles, of purely nervous origin. The spasm must have been particularly in the temporal and internal pterygoid muscles. The patient was a lady of great common sense, and had come to regard the accident as simply an unpleasant episode for which she was not responsible. She could not foretell its occurrence, but was always able to associate it with unusual physical or mental strain during the previous day.

Last summer at Long Branch he had been called to see a lady of a nervous temperament who had struck a boy, in a moment of great excitement and anger, and had immediately after been greatly alarmed lest she had injured him dangerously. As a result of these sudden and extreme emotions, she had had a nervous spasm, her jaw had become fixed so that she could not open her mouth, and her friends had feared she was suffering with lock-jaw. The condition proved only temporary.

Dr. Abbe remarked that he had seen cases of subluxation of the lower jaw from gaping, but they occurred in a forward direction and never during sleep.

Dr. L. E. Holt exhibited photographs and read an account of various intestinal lesions which he had found in children.

Dr. H. M. Biggs showed several specimens of the parasite *Distoma sinense* which he had removed in large numbers from the gall-ducts and liver of a Chinaman. He remarked that they occurred only in the Chinese or the inhabitants of countries south of China. The distoma threw off eggs in great numbers which passed away in the dejections of a person in whom the worms had found lodgment. From the soil of gardens fertilized with such excrement, the eggs probably adhered to the leaves of salad, herbs, cresses, etc., and so were taken again into the digestive tract of some other person. They seemed to stop in the duodenum, and from there to wander up into the gall-ducts and liver as fast as hatched out. Their presence in the liver was always associated with paralysis in various parts of the body. In the case in question the right arm had been affected. The specimens shown were about two thirds of an inch in length, flattened, with a diamond-shaped head tapering to a pointed extremity, and were of a dark color.

**Renal Colic.**—Dr. W. H. Flint showed some small crystals of oxalate of lime which had been passed by a patient under his care after a renal colic lasting for eight days. The symptoms had been very severe to have been caused by such minute crystallizations. Considerable blood had been passed every day. It had been necessary to keep the patient under morphine throughout. With the discharge of the little crystals, complete relief had come.

Dr. Coe suggested that there may have been a temporary impaction of a larger concretion at the mouth of the ureter. He related the history of a case where severe renal colic had proved to be purely hysterical, in which, of course, no blood and no crystallizations had been passed.

Dr. Biggs related the history of a case where there had been a violent renal colic at intervals of ten days, and only the most minute concretions had been passed at any time.

The President believed with Dr. Coe that in such cases there might be a large calculus impacted for the time at the outlet of the bladder.

Dr. Flint replied that the escape of blood at the time these fine particles came away made him think they must have been the cause of the attack.

Dr. W. Mendelson had also seen cases in which great pain was accompanied with the discharge of fine sand only, but believed that here a larger stone was in the bladder.

The President related the history of a case of purely hysterical renal colic in which there was violent pain radiating into the labium. The patient's father had had a true renal colic many times, in which the pain radiated into the testicle. The daughter imitated in every feature the attacks her father had suffered from, except that she passed nothing after her attacks.

Dr. Abbe gave the history of a case of hysteria in a girl of twenty-four in which there was apparent paralysis of one leg with partial atrophy from disuse, and where the patient had had attacks of general convulsions for three years—all shortly before menstruation. When she came under his care she was still frequently having the apparently epileptoid convulsions, in which she developed full opisthotonos and became apparently unconscious. He noticed, however, that some groups of muscles were at the same time relaxed, though she bit her tongue and frothed at the mouth. Suspecting hysteria, he made pressure on the ovaries, upon which the girl rolled about on the bed to avoid him, and half a minute later spoke about her wishing to go home. Her next attack was checked by dashing some ice-cold fluid in her face. To prove her paralysis of hysterical origin or not, he had put her under ether. She apparently remembered about it, and had no use of the limb while going under the influence of the anæsthetic, but, on emerging from it, forgot, and moved the limb freely. Three days later she was walking all about the ward. The speaker thought the case would have furnished the practitioners of the mind-cure with an opportunity for some remarkable healing.

## Book Notices.

### BOOKS AND PAMPHLETS RECEIVED.

The Causation of Disease: An Exposition of the Ultimate Factors which induce It. By Harry Campbell, M. D., B. S. (Lond.), Member of the Royal College of Physicians, etc. London: H. K. Lewis, 1889. Pp. x–368.

Clinical Lectures on Diseases of the Urinary Organs. (Delivered at University College Hospital.) By Sir Henry Thompson, Surgeon Extraordinary to His Majesty the King of the Belgians, etc. Eighth Edition. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. xiv–470. [Price, $3.50.]

Hand-book of Materia Medica, Pharmacy, and Therapeutics. Compiled for the Use of Students preparing for Examination. By Cuthbert Bowen, M. D., B. A., etc. Philadelphia: F. A. Davis, 1888. Pp. vi–366. [Price, $1.40 net.]

Obstetric Aphorisms for the Use of Students commencing Midwifery Practice. By Joseph Griffiths Swayne, M. D., Consulting Physician to the Bristol General Hospital, etc. Ninth Edition. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. vii–159. [Price, $1.25.]

Exploration of the Chest in Health and Disease. By Stephen Smith Burt, M. D., Professor of Clinical Medicine and Physical Diagnosis in the New York Post-graduate Medical School and Hospital, etc. New York: D. Appleton & Co., 1889. Pp. xiii–7 to 206. [Price, $1.50.]

Bright's Disease of the Kidney. By Alfred L. Loomis, M. D., LL. D., Professor of Pathology and Practice of Medicine, New York University Medical College, etc. Detroit: George S. Davis, 1888. Pp. 117. ["The Physicians' Leisure Library."]

Proceedings of the Connecticut Medical Society, 1888. Ninety-seventh Annual Convention, held at New Haven, May 23d and 24th, New Series. Vol. IV, No. 1. Published by the Society. N. E. Wordin, M. D., Secretary, Bridgeport, Conn.

Message of Governor Robert L. Taylor to the Forty-sixth General Assembly of the State of Tennessee, Thursday, January 10, 1889.

The Comparative Danger to Life of the Alternating and Continuous Electrical Currents. By Harold P. Brown, Electrical Engineer.

Cornell University, College of Agriculture, Bulletin of the Agricultural Experiment Station. IV. December, 1888.

A Case of Hodgkin's Disease, accompanied with a Possible Result, ing Paraplegia. Reported by Lewis H. Adler, Jr., Resident Physician-University Hospital, Philadelphia. [Reprinted from the "Medical News."]

The Propriety of Surgical Interference in Perforating Typhoid Ulcer. By J. Ewing Mears, M. D., of Philadelphia. [Reprinted from the "Transactions of the American Surgical Association."]

How Micro-organisms enter the Body. By George N. Kreider. A. B., M. D., Springfield, Ill. [Reprinted from the "St. Louis Courier of Medicine."]

Proceedings of the Twelfth Convention of the Empire State Association of Deaf-Mutes, held in the City Hall, Rochester, N. Y., August 29–30, 1889.

Success and Failure of Electrolysis in Urethral Strictures, especially Dr. Keyes's Method reviewed. By Robert Newman, M. D., Surgeon to the Northwestern Dispensary, New York. [Reprinted from the "Philadelphia Medical Times."]

Twentieth Annual Report and By-laws of the New York Physicians' Mutual Aid Association.

Papilloma of both Falloppian Tubes and Ovaries; Primary Cancer of the Falloppian Tube. By Alban Doran. [Reprinted from the "Transactions of the Pathological Society of London."]

Osteotomy for Anterior Curves of the Legs. By DeForest Willard, M. D., Lecturer on Orthopædic Surgery, University of Pennsylvania, etc. [Reprinted from the "Medical and Surgical Reporter."]

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States for the Fiscal Year 1888.

## Miscellany.

**Medical Matters in Massachusetts.**—Several matters of interest to the profession were considered by the Massachusetts Legislature or its committees last week:

First: The report of the commission on draining the valley of the Charles and of the Mystic Rivers.

Second: The condition of the Public Institution for the Insane.

And third: A bill to regulate the practice of medicine. This last is as follows and is entitled:

"An act to regulate the practice of medicine and surgery within the Commonwealth of Massachusetts.

"1. No person shall practice medicine, surgery, or midwifery within this Commonwealth without a license from the State Board of Health, obtained as hereinafter described.

"2. All persons now practicing in this Commonwealth shall be entitled to a license who have received the degree of doctor of medicine from a college or university having power to confer degrees in medicine, and duly and legally chartered under the laws of said Commonwealth; or who are members of at least one year's standing of any medical society, duly and legally incorporated under the laws of said Commonwealth prior to January 1, 1889; or who have practiced medicine, surgery, or midwifery continuously in said Commonwealth for a period of at least ten years prior to January 1, 1889, provided such persons shall make application to the State Board of Health for such license within two months after the passage of this act. Each such person, in making such application, shall make and file with the secretary of said board an affidavit stating the name and residence of the applicant, the fact that such applicant is a graduate of such college or university as aforesaid, or is a member of any such medical society as aforesaid, or has practiced for ten years continuously in said Commonwealth as aforesaid, and also such other information as said board may require. Said board, after due examination and proof of the truth of the statements in said affidavit, shall, upon payment of one dollar, issue to such applicant a license to practice medicine, surgery, or midwifery throughout said Commonwealth.

"3. All persons not hereinbefore provided for, who shall desire to practice medicine, surgery, or midwifery within this Commonwealth, shall make and file an application with the secretary of said board, stating the name and residence of the applicant, and by which of the three following medical societies—the Massachusetts Medical Society, the Massachusetts Homœopathic Medical Society, or the Massachusetts Eclectic Medical Society—said applicant elects to be examined. Upon filing such application, each applicant shall pay to the secretary of said board the sum of ten dollars. The secretary of said board shall duly record such applications in the order of their receipt, and thereafter forward each application forthwith to the medical society therein designated. Each medical society so notified shall issue due notice of the time and place of examination to each applicant. The Board of Censors of such medical society shall examine such applicant at said time and place, and after such examination shall forthwith return the applications, together with a certificate, setting forth that such applicant has passed, or has failed to pass, said examination. The Board of Health, upon receiving such a certificate from a medical society, setting forth that an applicant has been examined and has passed a creditable examination, shall, upon being satisfied of the good moral character of such applicant, issue to such applicant a license to practice medicine, surgery, or midwifery within this Commonwealth.

"4. Any applicant failing to pass a satisfactory examination before any medical society, as provided in Section 3, may apply to the said Board of Health for another examination, at any time after a period of six months from a previous examination.

"5. Nothing in this act shall apply to any commissioned surgeon of the United States Army or the United States Navy, or to any physician from another State in actual consultation with a duly licensed physician in said Commonwealth.

"6. All persons who shall have obtained a license under this act shall cause the license to be conspicuously displayed in their office or consulting-room.

"7. Any person who shall falsely claim or pretend to have or to hold a license granted by the State Board of Health, pursuant to the provisions of this act, or who shall practice medicine, surgery, or midwifery, without previously obtaining a license as provided in this act, or who shall violate any of the provisions of this act, shall be deemed guilty of misdemeanor, and, upon conviction thereof, shall be punished by a fine not exceeding five hundred dollars, or by imprisonment in the jail not exceeding six months. Any person shall be regarded as practicing, within the meaning of this act, who shall profess publicly to be a physician, or to prescribe for the sick or injured, or who shall append to his or her name the letters 'M. D.,' or who shall treat or attend, as a physician, any person for money, gift, or reward.

"8. It shall be the duty of the State Board of Health to carry out and enforce the provisions of this act, and to prosecute all persons violating them. The said board shall also have power to revoke, for cause, the license of any physician, surgeon, or midwife.

"9. All acts and parts of acts inconsistent with this act are hereby repealed.

"10. This act shall take effect on the first day of June, 1889."

**The Eighth German Congress of Internal Medicine** will be held in Wiesbaden from the 15th to the 18th of April, inclusive, under the presidency of Dr. von Liebermeister, of Tübingen. The business committee consists of Dr. Nothnagel, Dr. Immermann, Dr. Binz, and Dr. Curschmann, and Dr. Emil Pfeiffer, of Wiesbaden, is the permanent secretary. Dr. Schultz, of Bonn, will deliver a memorial address on the late Dr. Rühle. The following subjects will be discussed: *April 15th*—"Ileus and its Treatment" (speakers, Dr. Curschmann and Dr. Leichtenstern). *April 17th*—"The Nature and Treatment of Rheumatism" (speakers, Dr. Ebstein and Dr. Emil Pfeiffer). The following-named papers are promised: "On the Functions of the Stomach in Tubercular Phthisis," by Dr. Immermann, of Basel; "On the Curative Methods of Hippocrates," by Dr. Petersen, of Copenhagen; "Impotence in the Male," by Dr. Fürbringer, of Berlin; "On the Preparation and Effects of Medicine," by Dr. L. Lewin, of Berlin.

**The Source of Sugar.**—We clip the following from the "British and Colonial Druggist": "The day was hot and stifling, the professor of physiology was tired and looking forward to the end of the day's examination, when a student presented himself who appeared to have been so much tried in previous encounters with examiners that his very aspect 'gave him away.' Perhaps with the intention of cheering him, the professor opened fire on the liver (not the student's, but that of the *genus homo* generally), and asked for an account of that organ's anatomy. The student forthwith commenced a wonderful discourse on 'operatic arteries,' 'porous veins,' etc., which the professor cut short by a question as to the function of the liver. The student murmured something about 'glycogen' and 'sugar,' and, 'following his lead,' the examiner inquired: 'Well, now, where does the sugar come from?' A sickly smile overspread the victim's pallid visage, and, summoning his fast receding faculties for a last despairing effort, replied, 'From America.'"

**The Health of Michigan.**—According to the State Board of Health's Report for the five weeks ending February 2, 1889, diphtheria was reported from sixty places, scarlet fever from ninety-four places, typhoid fever from thirty-eight places, measles from eleven places, and small-pox from eleven places.

**The Cheshire, N. H., County Medical Society.**—The physicians of Southwestern New Hampshire met at Keene on Tuesday, February 5th, and formed a new medical society, which is to be known as the Cheshire County Medical Society. By-laws were adopted and the following officers elected: President, Dr. George B. Twitchell, of Keene; vice-president, Dr. J. A. Craig, of Westmoreland; secretary and treasurer, Dr. I. J. Prouty, of Keene. A paper was read by Dr. M. T. Stone, of Troy, on "Empiricism and Rational Medicine," thoughts of which were suggested by remarks made before a committee of the Massachusetts Legislature by several "irregulars," who were opposed to the passage of a medical law. The paper was discussed, after which there was a discussion by different members on the treatment of pneumonia. The society meets monthly from September to May, inclusive, the annual meeting being held the first Tuesday in September.

**The University of Vermont.**—Dr. Charles B. Kelsey, of New York, has been appointed lecturer on diseases of the rectum in the Medical Department.

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**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Original Communications.

# A CONTRIBUTION TO THE SURGERY OF THE BLADDER.*

By WILLY MEYER, M. D.,
ATTENDING SURGEON TO THE GERMAN HOSPITAL, NEW YORK.

THE great interest that has been taken in the diseases of the bladder by surgeons of all countries for many years past has not yet relaxed. The question is still under discussion, Which is the most preferable operation of opening the bladder for the removal of stones or tumors? Surgeons have not yet agreed in regard to the best method of the after-treatment of epicystotomy, the operation lately so much more favored. The operative treatment of hypertrophy of the prostate is still in the early stage of its development. The improvement of the old cystoscope has created a perfectly new branch of surgical diagnostics.

At such a time the experience of a single man, gained even from a comparatively small number of cases, may be of interest to others, and I am of the opinion that it is the duty of all surgeons to publish their operative cases of diseases of the bladder, whether the result may have been good or bad. Only in this way can the important questions mentioned above reach a definite solution.

I do not hesitate, therefore, to put before you my experience in regard to the diagnosis and operative treatment of diseases of the bladder, which I have derived from a few cases in this line, coming under my treatment since I have been a resident in this country.

I shall not consider the question of the most preferable method of incising the bladder, whether above or below the pubes. Although I do not deny the great value of the median section in proper cases, I follow the views of my highly esteemed former chief, Professor F. Trendelenburg, director of the Surgical Clinic of the University of Bonn, and prefer suprapubic cystotomy, as not being in itself a dangerous operation. I adopt it, therefore, wherever I can, on account of its many great advantages—the easy manipulation inside of the vesical cavity, and the perfect view to be obtained by it of the interior of the bladder in the posture of the patient that has been advised by Trendelenburg.†

The points I propose to consider to-day, in reporting my own six cases of epicystotomy, are:

1. The best after-treatment of this operation; whether it be drainage of the bladder,‡ or whether we should prefer suture of the bladder.

2. The great value of cystoscopy in the preliminary examination of the patient.

Of the six suprapubic cystotomies recently performed by me, four were done for tumor of the bladder (one for recurrent cancer), one for stone, and one for foreign bodies. I shall report them chronologically.

CASE I. *Papilloma and Multiple Villous Growths of the Bladder.**—M. G., a native of Germany, a merchant, fifty-two years old, had been a healthy man up to March, 1886, when, without any previous warning, he suddenly passed bloody urine for two days. Four weeks later a more serious hæmorrhage from the bladder set in. Since that time the patient had suffered from frequent hæmaturia, especially at the end of micturition, catarrh of the bladder, pains in the glans, and now and then sudden stoppages in the flow of urine. His family physician had treated him for chronic catarrh in the usual routine way without any material benefit. On one of the first days in October retention of urine occurred. The catheter was introduced and the bladder washed out. A chill, with consequent high fever, pains in both lumbar regions, and aggravation of all the symptoms, resulted. The patient then consulted Dr. A. Jacobi, who advised an operation, and sent him to me for that purpose.

When I saw the patient first, October 26, 1886, he was very weak and still feverish. He passed his water about every fifteen minutes with great difficulty and excruciating pains. There was tenderness on pressure in both lumbar regions. The beak of a large-eyed silver catheter was caught in a soft mass immediately upon entering the bladder; moving the instrument caused bleeding. On withdrawing the same, a large shred of tissue was found in the eye, evidently torn off from a larger growth. On macroscopical examination and under the microscope I found this to be a piece of a villous papilloma. This was, most probably, growing at or near the trigonum, and pedunculated, as it sometimes closed the internal urethral orifice in urinating. The chemical and microscopical examination of the urine showed symptoms of pyelonephritis besides those of chronic catarrh of the bladder.

Having by these examinations established the diagnosis, I proposed to remove the growth by suprapubic cystotomy, then to drain the bladder, and in doing so to drain also the pelves of the kidneys. The operation was performed on October 28th. About thirteen ounces of warm water were thrown into the rectal colpeurynter and almost seven ounces of warm three-per-cent. boric lotion into the bladder. After the vesical wall had been incised to the extent of three inches the patient was placed in Trendelenburg's posture and I found a soft pedunculated growth of about the size of a medium-sized apple, its pedicle being about as large as the thumb, inserted a little above the trigonum, near the orifice of the right ureter. The greatest portion of the tumor was then cut off with the curved scissors. The hæmorrhage, in no way alarming, was controlled by small pieces of ice put into the cavity of the bladder. Then I pulled the posterior wall of the bladder forward with the help of Muzeux's forceps, and burned off the pedicle with the Paquelin cautery, cauterizing at the same time the wall of the bladder at this spot down into the muscular layer. (An arterial hæmorrhage from this spot was stopped by inserting under it a strong catgut ligature by means of a sharply curved needle.) A further careful examination of the bladder revealed a second tumor of the size of a cherry, a little to the right of and above the one just removed; and, furthermore, the fundus of the bladder was found to be covered with a great many velvety villosities. They were all easily removed with the sharp spoon, and the hæmorrhage was again checked by ice. (I do not know of any better styptic than ice in vesical hæmorrhage after having opened the bladder; but hot water may have the same good effect.) Now Trendelenburg's T-tube was inserted and the prevesical space loosely packed with iodoform gauze. The abdominal and vesical wounds were left open for the sake of establishing in this manner a thorough drainage for the secretion of the septic pyelonephritis—latero-abdominal position. The effect of this procedure soon became apparent. The same night there was still a slight fever, but on the following day the temperature was normal and never rose again. The septic symptoms quickly disappeared and the patient made a quick recovery. The tube was removed on the eighth day after the operation. Twelve days later the first urine was passed by way of the urethra. After five days more it came in a strong stream, nothing escaping by the abdominal wound. The patient got up and soon was outdoors. During the next few weeks a fistula established itself in the lower end of the abdominal cicatrix that induced me to make an incision and cut away the mucous membrane of the bladder that was lining the canal. This was done on January 4, 1887.

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* Read before the New York Surgical Society, November 28, 1888.

† Willy Meyer, "Ueber die Nachbehandlung des hohen Steinschnittes sowie über Verwendbarkeit desselben zur Operation von Blasenscheidenfisteln," von Langenbeck's "Archiv," xxxvi, 3, p. 514.

‡ Drainage of the bladder has been tried in different ways (Willy Meyer, *l. c.*, p. 494). I consider drainage with the T-tube in latero-abdominal position and open-wound treatment (as proposed by Trendelenburg) the simplest and safest, and therefore the best. It has been combined with an antiseptic dressing of iodoform gauze around the tube (Assendelft, von Langenbeck's "Archiv," xxxvi, p. 170). Although the real effect of an antiseptic dressing naturally is illusory in most of these cases, it may be handier now and then, especially in private practice.

* Cf. "New York Medical Journal," 1888, No. 16, p. 431.

On the 29th of March the wound was firmly closed. The patient was able to work, and enjoyed life. He had gained considerably in weight, and passed his urine every three or four hours. I then lost sight of him. Six months later I saw him again. A ventral hernia had developed and the capacity of the bladder decreased. He urinated every two hours, and had slight tenesmus. He refused further treatment, but went around to consult other doctors. About a year after the operation I examined him again. He had then incontinence but no hæmaturia. There was about 50 per cent. of albumin in the filtered urine. I proposed an incision in the cicatrix, to establish a permanent fistula. He refused. As far as I could ascertain by inquiring, he died in May of this year (eighteen months after the operation) of dropsy and suppurative bilateral nephritis.

Case II. *Medullary Carcinoma of the Bladder.*—H. T., sixty-five years old, waiter, a native of Switzerland, had suffered from frequent attacks of painful, difficult micturition during the last six years. These attacks came on at intervals of about two weeks. In the mean time he felt comparatively well and strong enough to attend to his work. About a year ago hæmaturia was first observed. Since that time the vesical symptoms have been permanent. Not infrequently he voided particles of the tumor, sometimes as large as a medium-sized oyster, during an act of painful micturition and accompanied by a serious hæmorrhage. Vesical incontinence supervened six months ago. The patient was confined to his bed and became very emaciated. He lost forty pounds of flesh during this time.

On admission to the German Hospital, patient is very weak and extremely anæmic. The pulse is small—120; afternoon temperature about 102° F. There is a round elastic protrusion above the symphysis, reaching up to the middle between it and the umbilicus. The spot is dull on percussion. Bimanual palpation reveals a large semi-solid mass filling the bladder. The left lumbar region is painful on pressure. Examination of the urine shows symptoms of catarrh of the bladder and pyelonephritis. (Albumin five per cent. in urine which had been filtered.) The capacity of the bladder was barely three ounces, even in deep narcosis. Cystoscopy was practiced, but the field of vision remained dark, although the mignon-lamp was fully incandescent before introducing the instrument. I did not expect much from cystoscopy in this case, especially as the capacity of the bladder was so extremely small. But I believe that a negative result of cystoscopy of this kind, provided the fluid in the bladder is clear and the window and prism of the cystoscope are not found to be covered by a coagulum at withdrawal, justifies the diagnosis of a growth of large size.

Epicystotomy was performed on April 24th, of course with no other intention than to relieve the patient's deplorable condition somewhat and to establish a vesical fistula. The rectal colpeurynter did not hold more than about four ounces; the bladder held less than three. The tumor proved to fill the entire bladder. It was impossible to remove it otherwise than piecemeal. The growth was attached a little above the mouth of the left ureter with a broad base. The latter was well scraped with the sharp spoon and then destroyed with Paquelin's cautery in Trendelenburg's posture. The hæmorrhage, not being alarming, was easily controlled with ice. After thorough irrigation of the wound and the bladder, and dusting with subnitrate of bismuth,* the upper part of the abdominal wound was closed with four silkworm-gut sutures, the prevesical space loosely packed with iodoform gauze that had been thoroughly washed in Thiersch's lotion to remove as much of the drug as possible, and the T-tube inserted.

*April 25th.*—Patient comfortable. Rectal temperature 99·5°. Drainage-tube worked nicely.

*May 7th.*—The T-tube is removed and a simple straight rubber tube of medium size introduced in its place. The bladder is frequently washed.

*14th.*—Temperature normal. A small amount of urine escapes by the urethra, the most part by the fistula, which has been well established at this time. Measured quantity of urine passed in twenty-four hours, two pints. Patient has picked up somewhat.

*21st.*—Now and then particles of tumor are thrown out of the bladder in washing it. The urine shows blood.

*June 1st.—Exitus lethalis.*

The autopsy disclosed a recurrence of the growth within the bladder to a marked degree; suppurative pyelitis in the left kidney and a great distension and thickening of the left ureter. In the abdominal cavity about three ounces of pus were found between the coils. No symptoms of peritonitis having been present during life-time, I am inclined to think that the pus perforated from the left kidney shortly before death. The internal organs were free from suppuration. Hence we can not think of pyæmia as the cause of the abscess. No secondary deposit in other parts of the body.

Case III. *Foreign Bodies in the Bladder; Nephrolithiasis* (?). —B. v. P., forty-one years of age, a native of Germany, artist, was admitted to the German Hospital as a private patient, May 22d, this year. He had always been a healthy, stalwart man. Three years ago he was suddenly attacked by left renal colic and hæmaturia. Since then the latter had been intermittent. Frequently the first drops were mixed with blood during micturition; then the urine was clear. Now and then he passed pure blood. He had been examined and treated by the most eminent surgeons of Berlin without a diagnosis having been strictly established and without any remarkable benefit in regard to his troubles. According to the advice of one of the gentlemen, he had his bladder washed out with a mild solution of permanganate of potassium for a long time. Eight weeks ago a severe catarrh of the bladder set in. Now and then small particles of a semi-solid substance were pressed through the urethra. In passing water the flow of urine was frequently interrupted. The patient suffered greatly; he became emaciated and subject to the opium-habit.

Although the patient exhibited more or less the symptoms of stone, I was unable to find any on careful examination. There also were no traces of a vesical new growth. The urine, muddy and of alkaline reaction, contained three per cent. of albumin. Under the microscope, red blood-corpuscles, pus, and mucus were found in it, but no casts. A thorough bimanual palpation of both lumbar regions of the anæsthetized patient revealed a tumor of about two fists' size in the left hypochondrium, of the presence of which the patient had not the slightest idea. It had a smooth surface, and evidently belonged to the left kidney. Being convinced that the latter organ was the cause of the whole trouble, I intended to tap it for the sake of the differential diagnosis, to ascertain whether we had to deal with a tumor or with nephrolithiasis. But, as all the subjective symptoms pointed to vesical trouble, recourse was first had to cystoscopy. It had to be done under chloroform, the bladder being extremely irritable. The examination was a great surprise to all present. As soon as the instrument entered the bladder and the light was turned on I saw a few (four or five) curiously shaped, more or less flat, bent bodies of black color and covered with a deposit of white salts, tumbling over each other, but evidently of soft consistence. They frequently touched the beak, but gave no sound of stone. Besides these bodies, there was no stone, no tumor, only evidence of catarrh.

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* I am very careful with iodoform in operations on the bladder of old patients, having seen poisoning even after the use of minute quantities. No patient has died, however.

To establish a diagnosis in regard to the nature of these bodies from this cystoscopic picture was entirely impossible. None of us had ever seen anything like them. The most probable supposition seemed to be that of coagulated blood which had descended from the left kidney. But in that case the semi-solid condition and peculiar shape of the bodies remained unexplained. Nevertheless, the result of cystoscopy was highly satisfactory. We had seen, at least, the cause of all the *vesical* troubles, of the presence of which no searcher, no bimanual palpation ever had given or could give the slightest trace. It is worth mentioning that no vesical hæmorrhage set in during all these manipulations, but that a bimanual palpation of the tumor in the left hypogastrium caused immediate abundant bleeding, which lasted for nearly twenty-four hours. In view of this accident and of the result of cystoscopy, the plan of operating was:

1. Epicystotomy for the removal of these bodies, and catheterization of both ureters, if possible, to gather the excretion of each kidney separately for the sake of a distinct diagnosis.
2. Nephrotomy or nephrectomy, according to the result of tapping, or, if the latter gave no positive result, exploratory incision.

On May 28th I opened the bladder above the pubes. (The peritonæum reaching far down near the symphysis, its prevesical fold was opened by mistake to the extent of about a third of an inch. This wound was immediately closed by a continuous catgut suture, and covered with a pad of iodoform gauze during the rest of the operation. There was no bad result whatsoever.) I removed about eight bodies of various sizes. They were of a semi-solid substance, flexible, of black color, and covered with white salts, just as we had seen them through the cystoscope. Chemical analysis showed that they consisted of 60 per cent. organic substance (fibrin), and 40 per cent. permanganate of potassium. (The specimen was presented to the society.) The bladder proved to be healthy. The attempt at catheterizing the ureters was unsuccessful on account of the lack of proper small rubber catheters. The mouth of the ureters was well visible in Trendelenburg's posture and with illumination of the bladder by electric light. In pressing the tumor on the left side *now*, we did not succeed in producing a hæmorrhage. The wound in the wall of the bladder was then closed from above and below by several iodoform-catgut sutures up to an opening of about three quarters of an inch, through which the T-tube was introduced. The abdominal incision was also stitched up in its upper two thirds. Dressing as described above. Patient made a quick recovery. His temperature was normal all the time, except on the first and fourth days after the operation, when the thermometer registered 101°.

*June 2d.*—Removal of the iodoform-gauze tampon in the prevesical space. Patient doing very well.

*8th.*—T-tube removed. Abdominal wound healed by first union.

*11th.*—Patient out of bed.

*16th.*—Urine passed *per urethram* for the first time.

*21st.*—Wound closed. Only slight catarrh of the bladder. Patient sleeps without morphine; gains in weight constantly. Discharged at his special request, not wanting a second operation performed on himself right away. As far as I could ascertain lately, patient is doing very well. Whether hæmaturia returned I am unable to say.

CASE IV. *Stone in the Bladder.*—B. H. D., fifty years of age, merchant, was admitted to the German Hospital as a private patient, June 18th, this year. For several years he had been troubled with chronic gastritis; otherwise he had been healthy. Returning from his summer resort in the mountains, he was seized with symptoms of stone, June, 1887. A thorough examination, which was made at that time, failed to detect any stone, and he was advised to take proper drugs. But, his condition getting steadily worse, his family physician courteously sent him to me for cystoscopy, June 11th. The patient's bladder being extremely irritable, and examination with the searcher having been accompanied before by great agony, I yielded to the patient's demand and immediately introduced Leiter's cystoscope. Having turned the instrument 180°, I saw at the first glance, as clear as in perfect daylight, an oval-shaped, brownish body, covered with white spots, of the size of an almond, lying in a groove behind the swollen prostate gland. It threw a very marked shadow upon the opposite wall of the bladder. Having turned off the light, I touched it with the beak of the instrument, and got the sound of stone.

*June 19th.*—Epicystotomy. Stone easily removed. Shape and appearance confirmed as diagnosticated with the cystoscope. Treatment as usual. Temperature in the first seven days constantly somewhat above the normal; general condition good.

*26th.*—T-tube removed.

*July 2d.*—Urine passed by way of the urethra for the first time.

*20th.*—Patient discharged. Wound superficially granulating. Since two days no urine escapes above the pubes. Patient leaves soon for the mountains.

When seen again, September 21st, he relates that the rest of the wound was entirely closed about the middle of August. At this time a flat, painful swelling had formed on the right side of the symphysis. It suddenly disappeared when he passed a quantity of pus with his urine on the 27th of August. (Most probably a pericystitic abscess had formed and perforated into the bladder.) To-day patient is all right.

CASE V. *Recurring Cancer of the Bladder.*—N. B., fifty-five years of age, merchant, was operated on by Dr. F. Lange, of this city, in his private hospital, for cancer of the bladder, October 13, 1886. Epicystotomy had been performed, the tumor removed by an ellipsoid incision, which included a part of the muscular layer of the wall of the bladder, and the latter wound closed by stitches. The bladder then was sewed up by an interrupted iodoform catgut suture and drainage obtained through a Nélaton catheter, passed by the urethra. The bladder healed by first intention. Patient left the hospital on October 30th, cured. He had very much improved and attended to his business, when, eight months later, a new hæmaturia with irritability of the bladder set in. Dr. Lange, as well as other surgeons who were consulted, refused to perform a second operation, there being no hope for a radical extirpation of the growth. But the establishment of a permanent vesical fistula was thought of as soon as the operation seemed to be urgent. It was decided to defer it as long as possible. On July 14th, this year, Dr. Lange being out of town, the patient came under my observation through the courtesy of Dr. J. H. Asch. I found him in a deplorable condition. Every ten to fifteen minutes he urinated with great agony, passing each time also a small amount of thin, very offensively smelling fæces. Prolapsus ani and tenesmus increased his sufferings. A hard, uneven tumor filled the space above the pubes, fully four fingers in width; it was adherent to the symphysis and pubic bones, and gave dullness on percussion. There was a slight ventral hernia in the cicatrix. Pressure in the lumbar regions, especially in the left, caused great pain. The urine was scarce and muddy. Its analysis showed catarrh of the bladder and pyelonephritis. Frequent chills, tongue dry, stomach rebellious, not retaining any food; temperature 105°, pulse 156.

Although the patient's condition was not very encouraging for operative interference, I proposed, after consulting with Dr. Asch, suprapubic cystotomy to the family, not concealing the risk that death might be expected on the operating table. On July 16th I performed the operation. No colpeurynter in the rectum. Bladder filled with three ounces of Thiersch's solution. On account of the ventral hernia and in order to have ample room, I used the Günther-Trendelenburg cross-incision.*

Making my way down to the bones, by an incision three inches in length, I found the cicatrix in front of the symphysis well provided with blood, and saw the prevesical peritoneal fold about half an inch above the symphysis, entirely adherent to the tumor. But I failed to feel the bladder distinctly. The patient then was put in Trendelenburg's posture and a small-bladed knife deeply thrust into the tissue just in front of the symphysis. Blood rushed out of the wound in large amount, but not a drop of the injected water escaped. It was evident that I had incised the tumor. The bladder had to be looked for somewhere else. I loosened the elastic temporary ligature around the penis; the water escaped. I injected again and was able to throw in the same amount as before—about three ounces. The hæmorrhage from the tumor having been checked by ice and loose packing with iodoform gauze, I went to search for the bladder. Strictly following Trendelenburg's rules† as to how to get down even to the empty bladder in epicystotomy without the help of the rectal tampon, I peeled the tumor off the posterior aspect of the symphysis and pubic bones with the second and third fingers of my left hand, turning the pulps toward the abdomen. I succeeded in loosening the growth, and there, down in the depth, *below the tumor*, I felt the gently distended bladder, of the size of a pear, pressed against the rectum and perinæum. I fixed it between the left second and third fingers, and incised it to the extent of about an inch and a half. Now the water poured out. After thoroughly scraping the bladder the T-tube was put in, the bladder well irrigated with a mild boric-acid lotion, the wound sewed up on both sides of the tube and drained in the angles with iodoform gauze, which also loosely filled the wound. Latero-abdominal position; stimulants.

The patient stood the operation remarkably well. On the next day the pulse went down to 108 and the temperature to 99·8°. The tongue was less dry. The bladder was washed out three times daily with a mild boric-acid solution. The septic enteritis alone gave some trouble. But it was overcome, too, after a short time by antiseptics frequently administered by the mouth. The sutured portion of the wound, although being entirely without reaction, did not unite, however. When the stitches were removed the wound gaped, but the granulations showed a healthy appearance. On the twelfth day after the operation the T-tube was changed for a straight one. On the 7th of August (the twenty-second day after the operation) the patient was out of bed for the first time. Meanwhile a slight œdema of the left lower extremity and left side of the scrotum had developed. The tube in the bladder worked very well. There never was any leakage in the fistula, except when a piece of tumor occluded the internal opening of the tube. Frequent flushing with a strong current then always removed the obstruction in a few days. Without any fever or new septic or uræmic symptoms, patient died from marasmus, September 20th, nine weeks and a half after the operation.

*Post-mortem Examination* (involving only the uropoietic system): Medullary growth (cancer) of about the size of a baby's head above and in front of the bladder. Peritonæum all around adherent but nowhere perforated. A portion of the tumor projects into the bladder. The latter is very small, attached to the growth, its mucous membrane hæmorrhagic in many spots. Both ureters, greatly distended and thickened, pass through the tumor in a curved line. They can be probed without difficulty. Left kidney represents a large sac filled with pus, that breaks at the attempt of removal. Only a small zone of its glandular tissue is left. The rest is in chronic inflammation, as also is the right kidney, which exhibits a less destructive appearance. The posterior wall of the growth is firmly attached to the sigmoid flexure. It compresses the large vessels below, especially the common iliac vein. Small metastatic cancerous growths in both kidneys only; nowhere else. [The specimen is demonstrated to the society.]

CASE VI.—A. D., sixty-five years of age, a native of Russia, was sent to me through the courtesy of Dr. A. Jacobi for hæmaturia. For two years he had had frequent pains in the glans; three months ago hæmaturia set in and has not stopped up to the present time. In washing the bladder at my office, it was found that the lower portion of it was very irritable. Water and catheter were speedily pushed out on attempts at slowly throwing in a very small amount of water. But, by conducting the instrument gently forward and depressing the handle, I succeeded in filling the bladder with about three ounces of water, the patient not being under ether. It seemed as if the bladder was divided into two parts, the lower being more diseased than the upper one. The prostate gland was very much enlarged in its entirety. Urine was scarce—about twelve to thirteen ounces in twenty-four hours. It contained a great deal of blood and some albumin. It was slightly sour. Microscopic examination showed blood and pus cells in great quantity. With Nitze's cystoscope I detected a sessile growth of about the size of a small hazel-nut in the upper part of the left side of the bladder. It had apparently a broad base (as it did not move on shaking the lower portion of the abdomen) and showed a few big papillæ. A small coagulum was adherent to its surface; the latter had a grayish-white color. About an inch lower down two more slender growths projected into the cavity of the bladder, floating up and down in the water. I concluded from the picture that all three growths probably were inserted on the same base, although their different appearance was strange and the mucous membrane between them appeared not to be materially changed. During the first examination the water became bloody, but I did not see the blood dripping down from the tumor. The mouths of the ureters I had no time to search for, the patient being in great agony to get rid of the injected water. On account of the result of cystoscopy, I proposed epicystotomy, not being quite sure that the tumor was the only trouble. Perhaps the *constant* hæmaturia was partially due to kidney disease; but, if so, I hoped to see bloody urine spurting out of one of the ureters during the coming intravesical manipulations.

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* Eigenbrodt, "Ueber den hohen Blasenschnitt," "Deutsche Zeitschrift für Chirurgie," xxviii, p. 66 *et seq.*

† Eigenbrodt, *l. c.*, p. 70.

On November 16th (twelve days ago) I performed the operation at the German Hospital. Before it was begun, cystoscopy was once more performed, the patient being under the influence of chloroform. I again saw very plainly the sessile growth as described above, and so did all the gentlemen present. But those two slender tumors were found lower down on the right side of the trigonum. I have no doubt that they had been detached from their base by the water that was repeatedly thrown into the bladder with some force by means of a syringe to get it clean, and then fallen down upon the trigonum. This explanation also reveals why they could not be found afterward when the bladder was incised. The outpouring water evidently threw them out. Again the mouth of the ureters could not be detected. But I must confess that I did not take sufficient time to search for them, the patient being under chloroform. In regard to the operation itself I used again the cross-incision three inches long. (There were about four ounces of warm water in the rectal colpeurynter and five ounces of Thiersch's solution in the bladder.) After dividing the insertion of the fascia, recti muscles, and the flat lower portion of the linea alba, the prevesical fat came into view. Now the patient was put into Trendelenburg's posture, the peritonæum pushed up with two fingers of the left hand, and between them the bladder incised about two inches and a half in length. The searching finger felt a small infiltrated spot at the location made out with the cystoscope. But, in looking at it, the bladder being held open by broad retractors, only the infiltrated bleeding base could be plainly detected; there was no projecting growth. It had evidently been of the same soft tissue as the other two, and my finger had unintentionally pushed it off. No more growths could be found, the bladder being illuminated by electric light, but on the opposite (right) wall of the bladder there was a flat infiltrated spot of a more yellowish color of about the size of a five-cent piece. The mouths of the ureters even now could not be seen. But the trigonum Lieutaudii and the anterior wall of the bladder formed a kind of funnel which led to the internal urethral orifice, and out of it ran blood, whether at intervals I can not say. I regret very much not having gathered some of this blood, as I am nearly sure, in thinking of the case *now*, that it was bloody urine. The rest of the new growth in the wall of the bladder was destroyed by Paquelin's cautery, as also was the suspicious portion on the other side. Then I sewed up the upper third of the wound of the bladder with iodoform catgut, put in the T-tube, and partially closed the wound in the abdominal wall. Both angles were left open; they were passed by small long strips of iodoform gauze which loosely filled the prevesical space. Now the patient was put to bed, the pulse being fair—about 84 and of good quality. I was unable to see the patient within the next twenty-four hours. Then I found him in a comatose condition, in which he was said to have been since early in the morning. (The night before he had taken water several times and answered the nurse's questions in a reasonable way.) The abdomen was soft, tongue moist, wound without reaction. Pulse extremely weak, despite constant stimulation for twelve hours; pupils of medium size, not reacting. He had passed scarcely six ounces of urine slightly tinged with blood in twenty-five hours; otherwise the T-tube worked well. Water thrown into the bladder by means of a catheter introduced through the urethra escaped out of it perfectly clear. We continued to stimulate the patient, but he died the same night, at 11 P. M.

A post-mortem examination was refused by the relatives in spite of my earnest demands. I feel pretty sure that the cause of death was uræmic coma, as we find it sometimes occurring after somewhat protracted manipulations inside of the bladder of older subjects, especially if the kidneys are diseased. It is not improbable that some serious trouble, perhaps a malignant growth, also would have been found in one of them by post-mortem examination, although I had not succeeded in feeling a tumor in one of the lumbar regions.

Certainly the fatal result was not due to the suprapubic incision. The wound was in perfect condition. I again found the cross-incision very advantageous. It was very easy to see and avoid the peritoneal prevesical fold, that reached here down pretty near to the symphysis, with the help of this method. There was ample room to operate inside the bladder. I should like to recommend the cross-incision very highly. I shall use it in future wherever I can.

It did not need this experience of successful after-treatment of epicystotomy, as described in my own practice, to convince me of the great value of Trendelenburg's method. During the time I was assistant surgeon to the surgical clinic of the University of Bonn I saw six patients * attended in this manner (three of them I attended personally). Although two of the patients died soon after the operation, the fatal result was not due to the mode of proceeding. A few months ago Professor Trendelenburg had published † forty-two cases (those six included) of epicystotomy for various troubles of the bladder. All of them were drained with the T-tube in lateral position for the first days. The result was, as far as this mode of treatment is concerned, always satisfactory. (The cross-incision that was proposed by Günther thirty-seven years ago and is now again practiced by Trendelenburg [cf. my Cases V and VI] is highly recommended in this treatise.) Others also have reported favorably upon it. ‡ But, nevertheless, it is not the *ideal* after-treatment. This is undoubtedly the suture of the bladder as soon as the intravesical trouble has been treated. If the results gained with it have not as yet been always satisfactory, the cause, it seems, has to be looked for in a failure to select suitable cases, and furthermore, probably, in the insufficient accuracy and technique of the surgeon. It seems that the latter is the main thing. This is proved by the statistics of van Iterson # (ten primary unions out of twelve cases of epicystotomy with suture) and those of Dr. F. Lange, of this city, who has been kind enough to allow me to mention his results in this paper. Lange had primary union seven times out of eight cases of suture of the bladder. (In the one case, patient of sixty years, where no direct union was obtained, slight leakage commenced on the fourth day on account of great restlessness of the patient. Otherwise the patient made a quick recovery.) Dr. Lange intends soon to publish the cases, ‖

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* Willy Meyer, *l. c.*

† Eigenbrodt, *l. c.*

‡ Assendelfft, "Chirurgische Erfahrungen eines Landarztes," Dorpat, 1883; "Archiv f. klin. Chir.," Bd. 36, Heft. 1; Rodziewicz, "St. Petersburger med. Wochenschr.," 1885, No. 8.

# "Centralblatt für Chirurgie," 1886, ix, ref.

‖ "Medicinische Monatsschrift, Organ für practische Aerzte in Nord-Amerika," New York, Jan. 15, 1889.

together with the details of the technique employed. Neither of the two surgeons used the funnel-shaped incision, as proposed by v. Antal ("Ctrlbl. f. Chir.," No. 17, 1885).

But, even in view of this wonderful and highly remarkable success of the two authors mentioned, I think suture of the bladder ought not to be practiced in all cases of epicystotomy. Undoubtedly Tredelenburg's method of after-treatment is not only very simple and easily applicable, even without proper assistance,* but it is *safe*. The free drainage of the bladder also drains the suppurating pelves of the kidneys. As long as the ureters are not obstructed, a retention of infectious material up there is utterly impossible.

The method provides also for an easy and convenient way of washing out the diseased bladder thoroughly, since there remain two openings in it. This is of great importance.

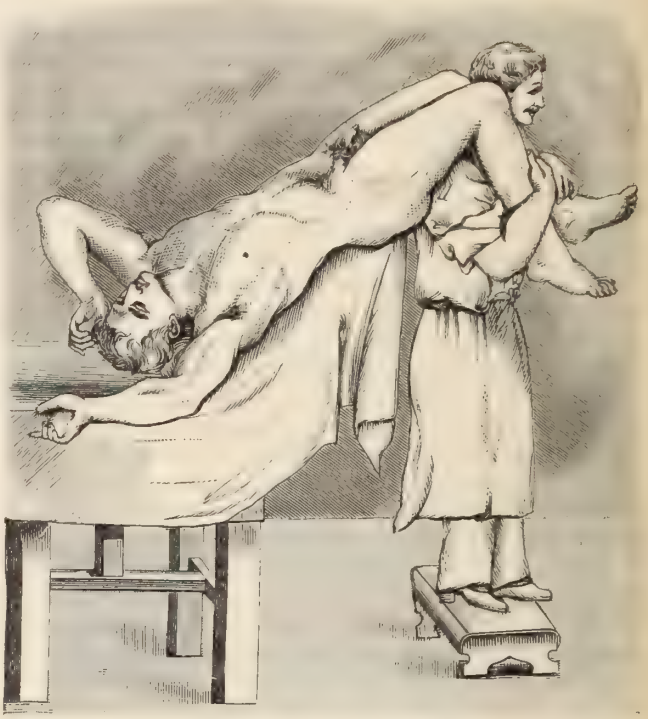
In regard to the time of healing, only slight differences have so far been recorded. According to Kraske's advice, the abdominal wound is generally left open and loosely packed with iodoform gauze in suture of the bladder. If we succeeded in closing this wound in the granulating stage by secondary suture, as Lange proposes to do (about the fourth or fifth day), and leaving a drainage-tube in the lower angle of the wound, provided there is no leakage from the wound of the bladder, the time of healing would be materially decreased. Further experience is needed to decide this. Summing up, I should say on this question:

1. If there is no catarrh of the bladder, or only a slight one, the wound of the bladder ought to be closed by primary and eventually the abdominal wound by secondary suture.
2. If the catarrh of the bladder is serious and combined with septic suppurative pyelitis, the bladder ought to be drained.
3. In less serious cases both methods may be combined with advantage—*i. e.*, the greatest part of the wound of the bladder may be sewed up, and only a small spot in the middle left open for passing the tube.

In regard to cases of malignant growths of the bladder, which could not radically be removed with resection of the diseased portion of the vesical wall, I should like to raise the question whether it might not be better for the patient that we should always operate with the intention of establishing permanent fistula. V. Dittel's apparatus would greatly lessen the discomfort resulting from the fistula. If the growth returns, a second, usually more difficult, cystotomy will thus be spared.

One more word I should like to say in regard to the great advantages of Trendelenburg's posture, which, as it seems, has not been sufficiently tried by American surgeons.

Every surgeon who has once employed this posture for intravesical operation has enthusiastically acknowledged † its great advantages. It is by all means preferable to illumination of the inside of the bladder with an electric surgical light while the patient is flat on his back. The electric light ought to be used rather in that posture when the trigonum Lieutaudii, usually the most interesting spot within the bladder, is not covered by blood and urine, but, being the highest point in the bladder, may be sponged and kept dry. To be entirely satisfied with the posture, it should be kept in mind that the pelvis is to be raised sufficiently high (figure). Many fail in that respect. Eigenbrodt emphasizes the fact * that this elevation helps the surgeon to avoid the prevesical peritoneal fold at the time of incising the bladder.†



Trendelenburg's posture. (From an article by the author in von Langenbeck's "Arch. f. klin. Chir.," xxxi, 3.)

On the great value of cystoscopy I can not add much to what I had the honor to say before another meeting of surgeons a few months ago.‡ Since the improved instrument has been in the market, it has been applied wherever surgery of the bladder is practiced. A few favorable reports have been published already; more are to be expected.

In regard to the instrument of Nitze and Leiter itself, I should like to say this after a ten-months' experience: Nitze's cystoscope has one great advantage, namely, the short beak, as we find it in Mercier's prostate catheter (about half an inch shorter than in that of Leiter). As cystoscopy is and will usually be applied at the first examination of the patient without giving ether, and as the irritable bladder can sometimes only be distended to a very small degree * (although the use of cocaine may enable us to inject a proper quantity—five ounces), the tip of a short beak will not touch the wall of the bladder so often as a longer one. The touch nearly always causes a burning sensation. The second disadvantage of Leiter's cystoscope—the short shank—has lately been removed. The newest pattern has the same length as that of Nitze. A sufficient length is an absolute necessity. It once happened to me in a patient, sixty-four years of age, with tumor of the bladder combined with hypertrophy of the prostate, that Leiter's instrument (with a short shank) did not enter the bladder at all, the urethra being materially lengthened. I then tried Nitze's. I easily succeeded with it and saw the tumor.† But I saw in this case everything dark-red and somewhat indistinct. I thought the water was mixed with blood; but when the cystoscope had been withdrawn, the water came out clear. On further examination, I found a very thin coagulum of blood on the prism. This, I think, had tinted the rays returning from the wall of the bladder. It was as if I had looked through a red glass. I found these adherent coagula oftener when I first began to practice cystoscopy, especially in cases with hypertrophy of the prostate. I had the impression that the recesses of the cystoscope at the window (Leiter), or the lamp itself (Nitze), had something to do with it, glycerin having to be used as a lubricant. Since I have made it a rule first to inject glycerin into the rear portion of the urethra by means of a rubber catheter, I am rarely troubled in this respect. To buy a second cystoscope for the fundus is unnecessary. Up to date I have always succeeded in inspecting the fundus and trigonum with the mouths of the ureters by simply turning the instrument 180° and depressing the handle. The inconvenience to the patient is slight. But both instruments do not illuminate the *internal* orifice and its immediate neighborhood. As is known, Nitze constructed his cystoscope, No. 3, for this purpose and praises its great advantages. A few days ago I received a communication by Dr. Nitze, notifying me that, after many experiments and trials, this instrument was now also ready for sale, but would be improved further in the nearest future. I shall report on its supposed advantages as soon as possible. Leiter's electric battery, specially constructed for the purpose, has also been greatly improved. He now sells a smaller and very powerful one containing twelve elements, the cells to be filled or emptied in a few seconds. The whole case is made of hard rubber. A small six-cell battery of the Galvano-Faradic Company of New York answers the same purposes. ‡

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* Assendelfft, *l. c.*

† Küster, "Sammlung klin. Vorträge," Nos. 267, 268, p. 52; Keyes, "Suprapubic Cystotomy," etc., "Jour. of Cutan. and Genito-urinary Dis.," July, 1887; Lange, *l. c.*; Gerster; and others. Only Géza v. Antal has found "little advantage" in this posture in the removal of tumors of the bladder by means of the suprapubic incision. "Spec. chirurgische Pathologie u. Therapie d. Harnröhre u. Harnblase," Stuttgart, 1888.

* *L. c.*, p. 72. Cf. Lange, "Med. News," Dec. 4, 1886.

† This posture is of great advantage also in intra-abdominal operations where the seat of the trouble is in the true pelvis. The latter will thus be found very easily accessible even in its depths. (Mendes de Leon, "Ein neues Untersuchungsverfahren," "Ctrlbl. f. Gynäk.," 1888, No. 21; Heyder, "Ctrlbl. f. Chir.," 1888, No. 57, p. 939; Lange, *l. c.*)

‡ "New York Med. Journal," 1888, p. 426.

How comparatively easily and yet distinctly we may succeed in clearing up obscure diseases of the bladder is plainly proved by my third and fourth cases. Even very experienced surgeons, who had examined the patients before, had been unable to come to a satisfactory conclusion.

I should like to report one more very interesting and, I think, quite rare case yet, where the diagnosis had been established by the cystoscope and proved to be right by treatment.

I. P., sixty-two years of age, merchant, was sent to me by a well-known physician of this city for cystoscopy on account of a fœtid catarrh of the bladder consecutive to hypertrophy of the prostate. The patient had formerly been successfully treated with antiseptic irrigations of the bladder and proper drugs. During his stay at a sea-bathing resort near by (last July) he caught a cold, according to his story, and soon found his catarrh materially worse. He followed all the orders given to him as punctually as ever, but the trouble grew worse. Then he consulted his family physician, who sent him to me, presuming that a tumor or a stone might be at the bottom of the trouble. He had to introduce the catheter about every half-hour in the day and three or four times during the night. The urine was of a light grayish color and had an extremely fœtid, gangrenous smell. Lately he had lost in flesh, although his appetite had always been excellent. I did not expect much of cystoscopy in this case. I resorted to it merely on account of the patient's and his doctor's request. But I was greatly surprised when I looked into this bladder. Although I had washed it out for nearly half an hour carefully until the water returned perfectly clear, I saw the whole mucous membrane of a grayish-black discoloration, more on the lateral sides and anterior wall than in the fundus and trigonum. Many long, thin coagula of mucus adhered to the wall and became fimbriated in the fluid. I most decidedly had the impression of "superficial gangrene" of the mucous membrane. This explained the terrible smell of the urine, such as I had never met with before. At first I did not know how to interpret this picture. I never had heard or read of gangrene of the mucous membrane of the bladder in cases of hypertrophy of the prostate. I therefore ordered rest and the continuance of the former treatment, in which I fully concurred, asking the patient to report in four or five days. I did not, however, see him again until ten days later. The catarrh was unchanged, rather worse; he had again lost several pounds of flesh, although having a fair appetite. This made me suspicious. I I made the sugar test and found about four per cent. of sugar. Upon this a strict antidiabetic regimen was ordered, together with the administration of opium, etc. This caused decided improvement in a few days. Now the patient holds his urine for three or four hours, he gets up during the night only once, has gained in weight, and attends to his business.

I am inclined to look at this case as one of "diabetic gangrene of the mucous membrane of the bladder." The gangrene perhaps just affected the *bladder*, as it was the *locus minoris resistentiæ*. That the diagnosis is correct we may conclude *ex juvantibus*.

I could add many an interesting experience yet which I have had in the last few months. Unfortunately, I can not support all that I have seen in the various bladders by ocular inspection at the operation. A few of the patients refused the operative interference which I had proposed in order to effect proper treatment. Nearly all of them were examined at my office by myself alone, no colleague being present to verify my cystoscopic diagnosis. But, nevertheless, I may be allowed to mention in passing that I have seen in this time, among twenty more or less interesting patients (Cases III, IV, and VI included), five tumors of the bladder, two stones, once foreign bodies, and the case of gangrene of the mucous membrane as just reported.

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* In some cases I have had to satisfy myself with throwing into the bladder three to three ounces and a half. But even then I have usually had a satisfactory view.

† In practicing cystoscopy with Nitze's instrument it has to be kept in mind that its telescope magnifies.

‡ F. N. Otis, "Papillomatous Tumor of the Bladder demonstrated by Means of Leiter's Electro-cystoscope," "Med. Record," 1888, p. 493. Whether this battery destroys the filament of the mignon-lamp easier than that of Leiter, which allows of regulating the strength of the current very exactly, I do not know.

There is no doubt, in my opinion, and no surgeon doubts it any more to-day, that cystoscopy has a great future. Of course we have to learn yet in many respects to recognize the disease in the picture, and may often be mistaken in explaining what we see, just as that occurs to the laryngologists, and very experienced ones, with diseases of the larynx. In many obscure cases of the uropoietic system the cystoscope will render great aid in arriving at a correct diagnosis. But, to be successful with it, it requires a close study and a great deal of personal experience.

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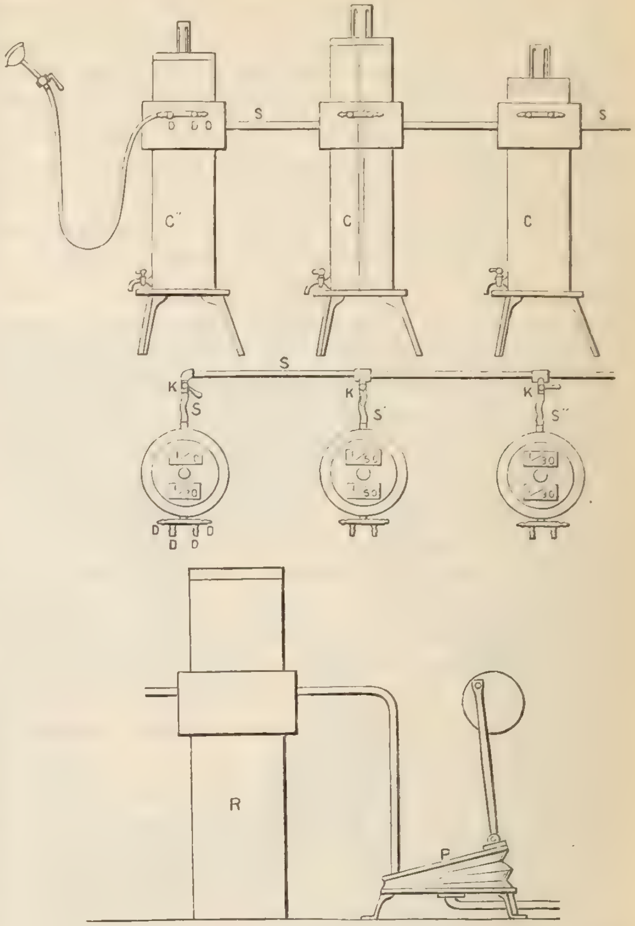
# A DESIGN FOR AN APPARATUS FOR PNEUMATIC TREATMENT IN HOSPITALS.

By SOLOMON SOLIS-COHEN, A. M., M. D.,
PROFESSOR OF CLINICAL MEDICINE AND APPLIED THERAPEUTICS AT THE PHILADELPHIA POLYCLINIC; LECTURER ON SPECIAL THERAPEUTICS AT JEFFERSON MEDICAL COLLEGE, PHILADELPHIA, ETC.

For the proper utilization of the therapeutic properties of condensed and rarefied air, according to the differential method, in hospitals or institutions where a large number of patients are to be treated, it is desirable that there should be constructed at moderate cost an apparatus with which several patients may be treated at one time, but which will nevertheless permit of accurate adjustment of pressure to the varying necessities of different individuals.

The following sketch is for an apparatus for compressed air to treat twelve patients at once. As each patient inhales for but ten to fifteen minutes, and then rests for the same period before inhaling for the second time, seventy-two patients could be treated during two hours with this size of apparatus, so that it would be quite large enough for most institutions. It would be used, say, for fifty or sixty patients about three to four hours daily, as most patients would require two sets of inhalations—one in the morning and one in the afternoon. It could thus be run, say, from 9 to 11 A. M. and from 3 to 5 P. M.

C, C′, C″ are gasometers slightly modified from Waldenburg's—such, indeed, as employed in the Cohen-Richardson apparatus—except that, instead of being fitted with but one delivery-tube, each has four delivery-tubes, D, D, D, D, and the size of the cylinder is correspondingly increased.* C is weighted at the bottom for a pressure of $\frac{1}{80}$ of an atmosphere, and additional weights may be placed atop to bring the pressure up to $\frac{1}{70}$ of an atmosphere. C′ is weighted for $\frac{1}{60}$ atmosphere, and the pressure may be increased to $\frac{1}{50}$ atmosphere. C″ is weighted to $\frac{1}{40}$ atmosphere, and the pressure may be increased to $\frac{1}{30}$. S is a supply-tube with branches, S′, S″, S, leading to a reservoir, R, into which air is pumped from the outside atmosphere (pure air) by a pump or bellows, run by an electric motor or any other source of power. The power required will be between one quarter and one half horse-power. This reservoir is weighted to give an air pressure greater than any used in the cylinders, C, C′, C″, and will always force air into them.



When the reservoir is full, it can be adjusted to stop the pump or bellows, either by opening a switch if an electro-motor be used, or by interrupting the mechanical connection if the source of power be a steam-engine or other motor.

Valves in each of the cylinders, C, C′, C″, controlling the connection between R and the gasometers, are so arranged as to automatically regulate the ingress of compressed air into the latter, so that when the air-cylinders have fallen to the lowest point, the valves are open to their full extent, and, as the cylinders rise and reach the proper point, the valves are closed and the air-supply cut off. When a gasometer is not in use, the air-supply is cut off by the stop-cock, K.

A warming apparatus can be interposed between the pump, P, and reservoir, R, when the weather is too cold to use the air at the prevailing temperature.

Apparatus for drying or moistening the air, if necessary, may also be interposed at any desired point between the outer atmosphere and the patient. The gasometers, as in the ordinary Cohen-Richardson apparatus, have hook and sponge attachment for volatile medicaments, or special medication for the individual patient may be secured by interposing any appropriate medicating apparatus between the gasometer and the mask covering the face of the patient.

As many gasometers may be brought into communication with the reservoir as may be desired, and, if necessary, five delivery-tubes for patients may be connected with each gasometer. The gasometers may be arranged for any fixed or adjustable pressure desired. Of course all the patients using the same gasometer at the same time will inhale air at the same pressure. It is believed that the arrangement of pressures here suggested will meet ordinary requirements among the number of patients for which the apparatus is calculated. Patients beginning treatment would require $\frac{1}{80}$ to $\frac{1}{70}$; those who had become accustomed to it would need from $\frac{1}{60}$ to $\frac{1}{40}$; exceptional cases would be benefited by $\frac{1}{30}$.

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* The air cylinder of the Cohen-Richardson apparatus for home use, as now constructed by Richardson & Metzgar, of Philadelphia, and Codman & Shurtleff, of Boston, is 8 inches in diameter and 24 inches high.

Should a fourth cylinder be introduced, it might be permanently weighted for $\frac{1}{60}$, and furnished with additional weights up to $\frac{1}{30}$. Of course, if a cylinder is permanently weighted for any pressure whatever, that pressure may be increased to any amount desired; or, as in the ordinary apparatus for home and office use, each cylinder may be permanently weighted to $\frac{1}{70}$ only, and furnished with weights up to $\frac{1}{30}$. The sketch merely gives a general plan, capable of modification as required.

To supply three gasometers in constant use by twelve patients, estimating that the patients average ten respirations each per minute, and inhale on the average 200 cubic inches of air each at each inspiration—*i. e.*, that from the three gasometers 24,000 cubic inches of air are delivered a minute, at an average excess pressure of $\frac{1}{60}$ of an atmosphere, equal to 24,400 cubic inches at ordinary pressure—the reservoir, R, would not have to be larger than about 12 inches in diameter and 36 inches in height. Any form of bellows or pump can be used that will give sufficient air.

For intermittent use these figures can be reduced. I am indebted for revision of the calculations to my friend and co-laborer in pneumatics, Mr. Charles H. Richardson, of Philadelphia. Messrs. Richardson and Metzger estimate the cost of such an apparatus at from $340 to $400, according to the size of electric motor and the distance of the cylinders, C, C′, C″, from the reservoir. Where the motive power already exists, as in most hospitals, the cost of motor would be saved, say, $75 to $100.

In situations that can be reached by the wires of electric light and power companies, an electric motor would probably be the best, and the rental would not exceed $5 a month.

If desired, apparatus for expiration into rarefied air may be combined with this at a small proportionate advance in cost. As it is not right to exhale into the same cylinder from which inhalation is made, separate gasometers, counterpoised, should be provided for the purpose, and connected with a large reservoir or a reservoir and pump. The pump would be supplied from the reservoir and discharge into the outer air.

The effects of expiration into compressed air may be obtained, as described in this journal for December 3, 1887, p. 626, by attaching to the face-mask or its stop-cock one of the "resistance-valves" made for me by Messrs. Codman & Shurtleff, of Boston. Increasing experience in the treatment of pulmonary troubles, and especially phthisis, with inhalations of compressed air, more than confirms the opinions previously expressed as to the great value of this method and as to the possibility of securing its best effects with the simplest apparatus. The time required with an instrument that can be used by but one person at a time has been a great obstacle in the way of introducing the method into public institutions. It is hoped that this obstacle will now be overcome.

219 South Seventeenth Street, Philadelphia.

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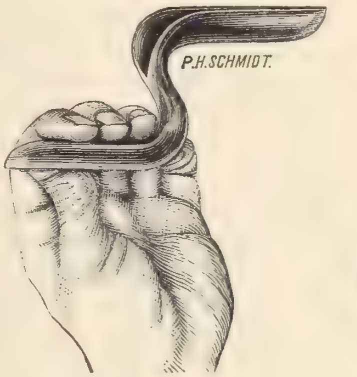
# A PERINEAL RETRACTOR FOR THE DORSAL POSITION,

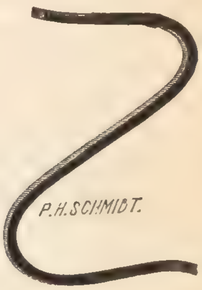
## WITH ELEVATOR FOR THE ANTERIOR VAGINAL WALL,

*Especially adapted for Applications of Electricity to the Uterus and Vagina.**

By AUGUSTIN H. GOELET, M.D.

While some conditions of the pelvic organs demanding electrical applications may be satisfactorily treated with the patient in the Sims position, and the external or inactive electrode on the lower part of the spine, there are many conditions which require the dorsal posture and the external electrode on the abdomen, and none of the instruments designed for this posture are suitable, because they do not permit sufficient expansion at the vulva to allow the introduction of suitable electrodes without considerable inconvenience to the patient. Besides being made of metal and not insulated, they must be withdrawn during the application. Another, and often a very material, objection is that they fix the cervix in an unalterable position.





The speculum here exhibited consists of two Sims blades so joined as to form a letter S. It is made of light speculum or bell metal, cast thin, and coated with hard rubber for insulation. In presenting it to you I do so with perfect confidence in its utility, gained by six months' constant use. It is intended to be used as a retractor for the perinæum and posterior vaginal wall, to be held in the left hand of the operator, the patient being in the dorsal posture. The elevator for the anterior vaginal wall, to be used with it, is held by the nurse in her left hand as she stands on the right side of the patient. This is made of hard rubber, and is sufficiently yielding to allow free motion without causing the patient any unnecessary pain. This instrument allows enough space at the vulva for the introduction of electrodes of considerable size, and, being insulated, it does not need to be removed during an application of electricity to the vagina, though, when its removal becomes necessary, it may be readily reintroduced for the withdrawal of the electrode. Vaginal ball-electrodes with any protecting covering can not be either introduced or withdrawn without considerable inconvenience to the patient, unless through a speculum. Such manipulations as the introduction of vaginal and uterine electrodes without a speculum must be characterized as crude and imperfect, and as showing utter disregard for the patient's safety and comfort. With the instrument shown it is possible to alter the position of the cervix or uterus at will for the more easy introduction of intra-uterine electrodes.

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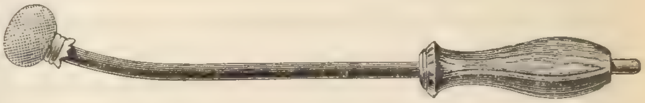
* Read before the Section in Obstetrics and Gynæcology of the New York Academy of Medicine, December 27, 1888.

Although it was designed for the dorsal position, it may be used for the lateral position in place of the Sims instrument. My nurse, after a little practice, has learned to hold this speculum in the Sims position with as much ease as the ordinary Sims instrument; and the general practitioner will find it more convenient to hold than the Sims instrument.

I have found it so convenient in many ways that I do not see now how I could well do without it. While it may be used with greater ease in the dorsal posture, when the nurse holds up the anterior vaginal wall with the elevator, a nurse is by no means essential, for the elevator is shaped so that it can be held over the pubes by the patient if she is willing to aid the operator, or the speculum may be used by the physician alone, aided by an ordinary depressor or the dressing forceps with a little cotton in its grasp to hold up the anterior vaginal wall. I often manipulate this speculum and introduce both vaginal and intra-uterine electrodes while the nurse is arranging the abdominal electrode. I do not wish to be understood as excusing the absence of a nurse in gynæcological practice, for I believe her a necessity for the safety and convenience of the physician as well as for the comfort and convenience of the patient, and believe that any physician who does much gynæcological work should always have one present; but I wish to show how conveniently the speculum can be used by a general practitioner, and do not hesitate to say that it forms not only a perfect and satisfactory substitute for the bivalve and trivalve instruments in use, but is a much more useful and convenient speculum in many ways, forming as it does a perineal retractor for both the dorsal and lateral postures. The saving of time may be no object to the general practitioner who has to see only one or two gynæcological cases a day, but the busy specialist can readily appreciate any instrument or method of manipulation which will economize his time. He will find frequent use for this speculum after he has once tried it. It often saves turning the patient on the side for a speculum examination when she has been first placed on the dorsum for digital examination. With it retrodisplacements may be detected with the sound which would be overlooked with the patient in the Sims position, because some are corrected by that position when the speculum is introduced and the vagina becomes filled with air. A pessary which may maintain a corrected position of the uterus while the patient is in the Sims position may, and often does, fail of its object when the patient assumes the erect or dorsal posture. This is the only speculum I know of which may be conveniently used in the dorsal position without removing a pessary from the vagina, and this fact alone would make it invaluable. The two blades are so nearly approximated at the shank that the couch does not often interfere with the manipulator's hand in holding the outside blade; but where this is the case a small leather-covered pillow, such as is used with almost every couch or table, may be placed under the patient's back to raise her. The proper cleansing of the vagina is an important matter before any manipulation of the uterine cavity or galvano-puncture, and is to be insisted upon in every instance. As the douche is not reliable and is very inconvenient, I know of no instrument so useful as this speculum in accomplishing this end. I use an antiseptic spray connected with a compressed-air receiver, and the vagina is sprayed with an antiseptic solution and wiped out thoroughly with absorbent cotton before an electrode or a sound is introduced into the uterine cavity or before a galvano-puncture is performed. And I find the *elevator* particularly useful in protecting the vagina and finger while passing the needle up to the seat of puncture.

The speculum, which is made by Mr. P. H. Schmidt, of 1311 Broadway, is finished with nickel as well as hard-rubber covering for the convenience of those who desire it for other than electrical applications.

To make this speculum more readily appreciated, perhaps it would be best to show you the form of vaginal electrode which I use. For a long time I was puzzled to know how I could protect the metallic vaginal electrodes so as to use galvanic currents of sufficient intensity to be effective. When we have to depend entirely upon the interpolar action, as we do in such applications, this is important, for mild currents are often inefficient and too slow. The usual covering of moistened absorbent cotton or chamois-skin will not allow the use of over 30 or 40 milliampères without inflicting serious injury upon the vagina. With the electrode which I show you I have been able to use currents of from 60 to 150 and even 200 milliampères with no more local effect than is produced on the integument of the abdomen by the large clay electrode of Apostoli. With currents of 50 to 100 milliampères there is a scarcely perceptible increase of redness of the surface after an application of ten to fifteen minutes, which is not noticeable in any way afterward. With the higher intensities the redness is increased, but no abrasion is produced to interfere with subsequent applications.



I use small copper discs of about the size and thickness of a penny, with a spindle attached to the center, which allows it to be screwed on any ordinary insulated handle. This I cover with a thick layer of potter's clay molded so as to cover the edge of the disc well. This is allowed to dry hard or it is baked, so as to make it retain its shape.

It is then attached to the handle and covered with a piece of gauze held on by a rubber band around the shaft of the electrode, which aids in retaining the clay in position. When it is to be used it is covered additionally with absorbent cotton which is well moistened. When once used, the cotton is removed and replaced fresh for every patient. I have used the metallic ball in this way also, but the clay will not adhere as readily to its smooth surface, and if the clay becomes soft, as it may do after many applications, the covering becomes thinner in some spot where the pressure is greatest, and the vagina may be cauterized in consequence. Besides, the current can not be so well concentrated with the ball as with the disc. For use with the positive pole I have the disc made of aluminium or hard carbon. The clay, when allowed to harden—or, better, if it is baked—will retain its shape for some time, and when well moistened is a good conductor, and forms a protection for the metallic electrode which greatly modifies the local action. When it has become necessary to increase the size of the electrode so as to multiply the intensity of the current, I have used a mixture of one third clay with two thirds plaster of Paris, which sets and remains firm, and is still absorbent.

One very decided advantage in favor of the clay-covered vaginal electrode is that where suprapubic punctures of fibroid tumors is necessary, because they can not be reached through the vagina, or, if frequent vaginal punctures have produced much local irritation, the current can be concentrated through the tumor by using it connected with the positive pole either against the tumor in the vagina or against the cervix, using negative puncture only. I have been able to concentrate 300 milliampères through the tumor without producing any local irritation in the vagina, and any pre-existing soreness is rather relieved by it. Puncture with both poles may thus be avoided. I did not believe at first that I would be able to get so much penetration through the small vaginal electrode; but by using a thick carbon disc well protected with clay, I have been able to reach 300 milliampères, using only 30 cells (Leclanché).

Those who profess not to cauterize the vagina when currents of over 40 milliampères are used with a metallic electrode covered only with absorbent cotton or chamois-skin, confess that they do not use a speculum, which explains why they believe this to be true. It stands to reason that they must burn the delicate mucous surface of the vagina when it is necessary to protect the large external electrode to avoid a similar effect upon the skin. I know that under the same conditions they must produce the same effect that I do. I once asked a prominent electrician how he avoided this action of the internal electrode. His reply was: "Well, do your patients object to it?" I replied, that was not the question. I objected to it myself most decidedly.

To those who would object to the high intensities mentioned above I would say that they can form no idea of what can be accomplished by galvanism until they have learned how to use these intensities with safety to the patient. I would not convey the idea that I believe high intensities are always necessary or even allowable, for there are certain conditions where they would be dangerous; but there are conditions which remain unaltered by low intensities.

# THE OPERATIVE TREATMENT OF HÆMORRHOIDS.

By WALTER WHITEHEAD, F. R. C. S., F. R. S. Edin.,
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SURGEON TO THE MANCHESTER ROYAL INFIRMARY, ETC.; LECTURER ON CLINICAL SURGERY IN OWENS COLLEGE.

My attention has just been drawn to the "New York Medical Journal," published December 8, 1888, and the trenchant attack of Dr. Kelsey upon my paper entitled "Three Hundred Consecutive Cases of Hæmorrhoids cured, by Excision," read before the meeting of the British Medical Association in 1886. I think that had Dr. Kelsey read the paper in a more temperate spirit he would have done more to advance the genuine interests of surgery than he has accomplished by the license he has given to his powers of hypercriticism and his reckless disregard for fact. With your permission I will endeavor to show how illogical and inconsistent his criticism has been.

In the first place, I will attempt to restore to something like order the varied charges I find scattered throughout his paper, and, when condensed, I think that the following will fairly summarize the gravamen I am expected to defend:

1. That I have ventured with my limited experience to condemn the clamp and ligature when greater authorities, who number their operations by thousands "and never report failures," believe both these methods to be radical operations for the cure of piles.

2. That the operation I have "invented" is "naturally difficult, tedious, and bloody."

My objection to the ligature is, and has been for fifteen years, that it is an operation inconsistent with the pathological condition which constitutes piles, and consequently can not be radical. Now, Dr. Kelsey says: "Whatever else may be raised as an objection to the operation by ligature, this, I believe, is the first time it has ever been impeached on the ground that it was not radical."

From the tone of Dr. Kelsey's letter I should not expect that he would accept my assurance that I have seen numerous instances of recurrence after the use of the ligature by surgeons whose names have been identified with that treatment for the last half-century. I will, however, appeal to the writings of the two surgeons Dr. Kelsey names, who, according to his authority, have operated upon thousands of cases and never reported a failure, and we shall see how far they substantiate Dr. Kelsey's statement. In fact, throughout my reply, beyond quotations from Dr. Kelsey's own work, I shall only refer for corroboration of my views to his two authorities, both of whom I cordially recognize and respect. One of the two is Mr. Henry Smith, of London, the acknowledged advocate of the clamp and cautery. This distinguished surgeon tells us what has actually occurred in his own practice after the employment of the ligature of piles by other surgeons.

In the third edition of his Lettsomian Lectures on "The Surgery of the Rectum," Mr. Smith, after mentioning two cases where death followed the use of the ligature, records with commendable candor his experiences of this treatment. Page 98: "In some instances a prolonged convalescence followed, the patient being confined to bed for many weeks, while in others it happened that the wounds resulting from the separation of the ligatures would not heal up for a long period, and the patient would be subjected to much painful suffering, necessitating, perhaps, some other operation." Again, on page 106: "In one case where I applied the ligature, a patient of the late Dr. Wildbore, an old lady, very nearly lost her life from secondary hæmorrhage and sloughing about the time the ligature came away." Page 109: "In another case the ligature was followed by a great deal of suffering and the formation of an abscess at the site of ligature, which remained unhealed and caused severe pain for many weeks after the operation." Page 112: "This operation was followed by the most severe symptoms, notwithstanding the employment of large and continued doses of opium and the local application of ice. The pain was most intense, and the constitutional disturbance in a corresponding degree severe." Page 113: "This gentleman suffered a great deal of pain after the operation, and his pulse became and continued very rapid. On the 29th he became very restless, perspired profusely, and became delirious"; and on page 124 he concludes by saying: "It is impossible for any surgeon conscientiously to tell his patient that there is no danger whatever after the ligature."

Here we have one of Dr. Kelsey's authorities telling of deaths, patients confined to bed many weeks, wounds that would not heal, weeks of intense suffering, secondary hæmorrhage, sloughing, formation of an abscess, and recurrence and delirium, following the use of the ligature, and yet Dr. Kelsey asserts that this surgeon never reports failures, and that the ligature has never "been impeached on the ground that it was not radical."

I will now supplement what Mr. Smith states by giving Dr. Kelsey's own opinion of the ligature, and for this purpose I will extract from what I believe to be the last edition of his work on "Diseases of the Rectum and Anus." On page 153 we have the following opinion expressed: "There may be, and often is, severe hæmorrhage at the time of the operation, which, though not dangerous, will require a moderate stuffing of the rectum with lint for its control; and if this is resorted to, an additional element of trouble will be found when its removal becomes necessary." I will interrupt the author's remarks at this point to call attention to the fact that on the previous page he had written: "Nothing has been said regarding primary or secondary hæmorrhage, for the reason that it is not a complication to be looked for." He further states that after the ligature "the constitutional disturbance is often severe. There will often be considerable nervous excitement, a frequent pulse, loss of sleep, pain sufficient to demand the use of morphine for days, obstinate retention of urine which may render catheterism necessary for a fortnight, swelling of the parts around the anus, and finally undue contraction after cicatrization, which will entail the use of the bougie. That this picture is not overdrawn, the experience of most men who have had a large number of these cases will, I think, prove." After having expressed this opinion, Dr. Kelsey reproaches me for venturing to condemn the ligature.

I will now take the evidence of Mr. Allingham, who firmly believes in the ligature, Dr. Kelsey's second authority, one of the two who, according to him, never report failures, and we shall see what he has to say about the clamp-and-cautery operation, which is the other operation I ventured to condemn.

In Mr. Allingham's last edition of his work, "On Diseases of the Rectum," edited by his son, the following appears on page 127: "In my opinion, this operation (clamp and cautery) has little to recommend it. As regards danger to life—after all, the issue of the greatest moment—as far as my most careful researches have led me to a conclusion, it is quite six times as fatal as the ligature properly and dexterously applied. There are, moreover, these disadvantages: The burning causes very great pain after the operation, especially if the skin is involved; secondly, hæmorrhage is more likely to occur than after the best modes of operating, greater sloughing of the parts takes place, and a longer period is required for healing. The after-results are likely to be unsatisfactory, for contraction is common."

So much for these "greater authorities" never having reported failures.

It will now be instructive to turn to a passage in Dr. Kelsey's paper where he states: "Men have objected to it (the ligature) because it caused pain, because it has been followed by untoward consequences, and because they believed a radical cure could be effected by other methods preferable, but never because it failed to cure." What does one of his authorities say to this? Mr. Smith quotes a case, on page 115 of his work before referred to, where a lady had undergone one or two operations with the ligature, with only partial success. And on page 141 Dr. Kelsey in his work says that after operations for piles performed on women with uterine displacement the hæmorrhoids will speedily return, and this opinion is shared by Allingham on page 108 of that author's work. Mr. Allingham further states: "It is better to tie the small ones (piles) first, as there is danger of their being overlooked, and if they are left they are likely to grow, and a return of the piles may be confidently anticipated in a few months. I have seen many cases in which this has occurred." If such be the case, Dr. Kelsey must admit that, at least under these circumstances, the ligature fails. No more convincing proof could have been advanced to show that the ligature is not radical than by its failure under these conditions, because, had the ligature been capable in the first instance of removing the whole pile area, there would have been no material left for the production of fresh piles, and this is one of the conditions where excision always succeeds and where the ligature is liable to fail.

I think that Dr. Kelsey has been most unhappy in his selection of his two authorities. Mr. Smith and Mr. Allingham have evidently views diametrically opposed to each other, and he unfortunately is in the position that to save the one he is logically bound to abandon the other. Dr. Kelsey believes in the clamp and condemns the ligature. Mr. Smith condemns the ligature and advocates the clamp. Mr. Allingham denounces the clamp and extols the ligature. How, then, is it possible for me to agree with two authorities, however distinguished they may be, when they do not agree with each other? I quite agree with Mr. Smith and Dr. Kelsey that the ligature has all the disadvantages they assert, and I can quite imagine that Mr. Allingham is correct when he states that the clamp is six times as fatal as the ligature, but I can not agree with Dr. Kelsey that his two great authorities never report failures, or that the ligature has never been "impeached on the ground that it was not radical."

It would indeed be heartless, even if space permitted me, to take any further advantage of Dr. Kelsey on this point of his attack.

I now come to the statement of Dr. Kelsey that my operation—excision of piles—is "a naturally difficult, tedious, and bloody operation."

Although Dr. Kelsey gives no assurance that he has ever excised piles, he repeatedly expresses the opinion that it is difficult. I am surprised to find a surgeon with his experience acknowledge an operation difficult when I have been assured so often by young surgeons, early in their professional careers, that they found no difficulties in the operation. He must admit that many operations are difficult compared with meretricious imitations, and that the merit of an operation does not consist in the facility with which it can be performed by incompetent surgeons, or that the interests of patients should become subordinate to the capacity of surgeons. But, even if excision were a difficult operation, his objection would fall to the ground could it, as I believe I have shown, escape most, if not all, the objections which have been so clearly indicated by Dr. Kelsey and his authorities to follow the use of the clamp and ligature. I am satisfied that it is an operation which can easily be performed by any surgeon possessing average skill and intelligence.

In reply to Dr. Kelsey's accusation that the operation is tedious, all I have to say is that it can be completed, in an average case, in ten minutes. If perhaps more tedious even than the ligature or clamp, it has the compensating advantage, to the patient, of being complete and permanent; and, if it takes five minutes longer in the performance, Allingham and Weir, among others, acknowledge that it gains at least six days in convalescence.

The application of the term "bloody" to the operation is quite in character with the rest of his paper. I have no desire to be associated with that school of timid surgeons who make bloodless surgery the pinnacle of their ambition, and allow the dread of blood to be the predominant feature of their treatment. At the same time I have as much regard to the disadvantages entailed by the loss of blood as any surgeon need possess. What would be an excessive loss in one operation would be considered a trifle in another, and the bleeding in excision does not exceed that daily lost by many patients suffering from piles. On one occasion, when I believed that more blood had been lost than had ever before occurred in my experience, I had it collected from the floor of the operating-theatre, when the blood, together with some sawdust which had been gathered with it, only measured four ounces. Hæmorrhage such as I meet with may very well take a subordinate position to other and more important considerations involved in the operation.

Dr. Kelsey reluctantly makes the concession, at the end of his paper, that he agrees with Weir that after excision "the recovery is quicker, and the reaction, as shown by pain and difficulty in urination, is less" than that following the ligature, and, as he says in the previous column, "The points upon which the merits of the operation must rest are not that it cures and fails to kill, but the amount of pain and constitutional disturbance it causes."

My opinion would be that the first test of an operation should be its safety; secondly, its completeness and the permanence of its results; and, lastly, the degree of freedom from pain. Judged by this standard, excision is in the position of never having had a death recorded against it; no complaint has ever been made that it has not been complete and its results permanent, and Dr. Kelsey himself admits the pain to be less than after the ligature. When any other operation can be shown to supersede in its results those I have mentioned, then a vacillating teacher like Dr. Kelsey may, so far as I am concerned, effectually destroy the reputation of excision.

Before I conclude I wish gently to remind Dr. Kelsey of a passage which appeared in the preface of his work published in 1884: "My special aim has been to make the book a safe guide for the student and general practitioners." How far has he fulfilled this laudable ambition? On page 143 of that work he says: "The treatment of hæmorrhoids by injection of certain substances, chief of which is carbolic acid, may now, I believe, be accepted as a surgical procedure of a certain definite value, and one worthy of a place among the recognized means of cure at our command. I wish now to emphasize what I wrote in the first edition of this work in favor of this method of treatment. For the past year I have treated nearly every case of internal hæmorrhoids for which I have been consulted by this method alone, and the favorable view I then held regarding it has only been confirmed by subsequent experience. . . . Since adopting the treatment by injection I have had very little use for either operation [ligature or clamp] except in cases of prolapsus, and in them I decidedly prefer the clamp and cautery." This teacher, with his imagination captivated by carbolic injections, and whose special aim was to make his book a safe guide for the student and general practitioner in 1884, has the audacity in 1888, whilst admonishing me, to admit that his faith in carbolic injection was unfounded, and that he has now abandoned the treatment in favor of the clamp and cautery.

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**Bromethyl.**—Szuman ("Therapeut. Monatshefte," April, 1888) recommends bromethyl for brief operations, because the patients awake from it very quickly, while vomiting and other bad symptoms are rare after small doses. He does not recommend it in cases of hard drinkers or for operations of long continuance. It is just as dangerous as chloroform in cases of phthisis, heart and kidney disease.

## A CASE OF EXCISION OF THE ASTRAGALUS.

### *RECOVERY, WITH ALMOST PERFECT USE OF THE FOOT.*

By W. H. DUKEMAN, M. D.,
OLEAN, N. Y.

I report this operation because of the somewhat unique and complicated features of the case, and to place one more successful total excision of the astragalus on record:

On September 30, 1881, Mr. C. R., aged twenty-eight years, a healthy muscular man, weighing about one hundred and eighty pounds, while engaged in building a very large oil tank (such as is used by the Standard Oil Company for storing crude petroleum), by a misstep fell to the ground, a distance of about thirty feet.

He fell in such a way, he said, that when he struck the uneven ground his whole weight was brought to bear on his right heel in such a manner as to turn his foot inward and forward. He was immediately taken to his boarding-house, where I saw him about an hour after the accident.

On examination, I discovered a fracture of the fibula about three inches above the malleolus, a partial dislocation of the tibia forward, and a displacement of the astragalus forward and outward, almost protruding through the skin. The patient was at once anæsthetized, and the tibia and fractured fibula were reduced with but little difficulty; but, after the most careful and repeated efforts, I found it impossible to replace or even move the displaced astragalus; consequently I was obliged to let it remain as it was. The fractured fibula in the course of time united nicely. By this time the astragalus caused ulceration of the tissues on the dorsum of the foot, and necrosis of the presenting portion of the bone had taken place. This was about two months after the accident, and I found it advisable and necessary for his recovery that an exsection be made and the bone removed. The patient was anæsthetized and an incision of the soft parts over the bone was made in a line lengthwise over the displaced bone. The bone was displaced to such an extent that its posterior surface pointed outward and the entire bone was almost completely turned one half upon its axis, the scaphoidal extremity, which was necrosed, pointing upward. The bone was removed without any difficulty and with but very little hæmorrhage. Further examination revealed that the articulating surfaces of the os calcis and scaphoid were injured. Small spicula, together with the roughened surfaces, were snipped off with the bone-forceps, and, after being carefully smoothed and the cavity carefully and thoroughly cleansed, the wound was closed. A drainage-tube was inserted and antiseptic dressings were applied. The foot and leg were then placed in a wire splint with a foot-board firmly secured at right angles to give support to the foot, and firmly secured by bandages to keep it at perfect rest. The leg was then suspended by means of a rope and pulley to the ceiling. This allowed the patient to move, and at the same time kept the foot at perfect rest. The patient made a good recovery, being confined to his bed about six weeks, and in the course of four months he was able to use his foot with the aid of a crutch.

It is now over three years since the operation was performed. I saw the patient a short time ago at work for a grocer in Jamestown as a delivery man. His foot is a little shortened, but he has almost perfect use, with no impediment, of the ankle joint.

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**Small-pox in New York City.**—The present season has been singularly free from this disease, no cases having been reported from December 11, 1888, to February 12, 1889, when one death was reported.

THE
NEW YORK MEDICAL JOURNAL,
*A Weekly Review of Medicine.*
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, FEBRUARY 23, 1889.

## THE MARINE HOSPITAL SERVICE.

The "Journal of the American Medical Association" for February 9th contained an announcement signed by the editor, Dr. John B. Hamilton, to the effect that his editorial connection with the "Journal" ceased with that issue. It is known to our readers that Dr. Hamilton assumed the editorship of the association's "Journal" at the beginning of the current year, having been given leave of absence in his capacity as surgeon-general of the Marine Hospital Service, with a view to the early severance of his connection with the service. In the article mentioned Dr. Hamilton says that, when he accepted the position of editor of the "Journal," he felt no certainty of the passage of the Marine Hospital Service bill, which was then pending, as it had been for ten years before, but that on the 4th of January it passed both houses of Congress and became a law prohibiting any original appointments into the service except to the rank of assistant surgeon and having the consequent effect of creating a life tenure in the office of surgeon-general. It is implied that it was this effect of the bill that induced the surgeon-general to give up his editorial duties and return to his post at the head of the Marine Hospital Service. This might well be the case, for he thus exchanged a condition of dependence on the inscrutable changes of political affairs for one of security.

The course that events have taken in this matter seems to us eminently satisfactory. It is true that an important journal, one representing the interests of a great association, loses the supervision of a man admirably calculated to heighten the creditable position that it has already reached, but the "Journal" is for the present under the trustworthy guidance of the American Medical Association's Committee on General Management, and little difficulty will be encountered, we presume, in soon finding another suitable editor. On the other hand, there is but one man whom everybody, barring a few malcontents, regards as the proper head of the Marine Hospital Service, and that man is Dr. Hamilton. We are quite aware that the service already numbers among its officers several gentlemen who could fill the office of surgeon general creditably, but we are equally sure that those very men are foremost among those who look upon Dr. Hamilton's resumption of what he very properly terms his life work in the service as the best thing that could have happened for its continued efficiency and for their own satisfaction. Had his withdrawal been consummated, and the bill failed to become a law, the appointment of an unfit man from civil life might have been made. Only a man familiar with the past achievements of the service and with its traditions can safely be charged with its conduct, especially as it now covers a field of far more generally recognized importance to the community at large than that for which it was originally established. That this enlarged scope of its operations will continue to be confided to it is better guaranteed by Surgeon-General Hamilton's tenure of office than by any other occurrence that was to be looked for.

### THE HOSPITAL ACCOMMODATIONS OF NEW YORK.

The general agent of the Hospital Saturday and Sunday Association, Mr. Frederick F. Cook, in a letter to the editor of the "New York Times," quotes the following passage from Dr. Alfred L. Loomis's inaugural address delivered on the occasion of his recent assumption of the duties of the presidency of the New York Academy of Medicine: "The only appeal until quite recently has been for means to establish hospitals and charitable institutions, so that to-day hospitals and dispensaries so far exceed the needs of the city that there is actually a premium on patients to fill their wards." The words "until recently" referred to no cessation of this alleged state of things, but to the fact that munificence had of late been shown to some extent in the endowment of purely educational institutions. Whatever may be said of the dispensaries, it is somewhat startling to hear that New York's hospital accommodations are so far in excess of what is needed as Dr. Loomis's words seem to imply, or, for that matter, anything else than inadequate. Indeed, it is notorious that the lack of a spare bed is a frequent bar to the admission of patients in need of hospital treatment. Specific testimony to this state of things has been gathered by Mr. Cook from the superintendents of most of the general hospitals. It seems that the increasing demands upon the New York Hospital have compelled that institution to reduce the twenty-three days' average length of stay for each patient to one of fourteen days in the course of the last ten years, so that, as the superintendent says, "when it becomes a question between a man able to be about, though not yet in a condition to return to work, and another whose very existence depends on instant admission to hospital treatment, the choice is clearly made for us by compelling circumstances" Statements of the same general purport are attributed to the officials of Mount Sinai, the German, St. Luke's, the Roosevelt, and St. Francis's hospitals.

Mr. Cook has certainly brought forward sufficient corroboration of the general impression as to the inadequacy of the hospital accommodations in New York, but he seems to us to make an odd application of it when he says: "If what the president of the New York Academy of Medicine says about our hospitals is anywhere near the truth, there is not only no *raison d'être* for any such an instrumentality for hospital support as the Hospital Saturday and Sunday Association, but it is even permissible to charge it with seeking the gifts of the public under false pretenses." We think it is generally understood by the contributors to the association's fund that its purpose is to aid in maintaining the hospitals already in operation, and not to build others. It is to be presumed that neither the president of the Academy of Medicine, nor anybody else with the slightest title to be heard on the matter, would favor the demolition of any of the hospitals that we now have or oppose their maintenance in the highest possible degree of efficiency. The truth is that we need more hospitals rather than fewer, and that they ought to be placed beyond the necessity of refusing admission to any person needing their shelter and care on the ground that there is no bed to spare.

## *MINOR PARAGRAPHS.*

### PUPILLARY CONTRACTION DUE TO THE SALICYLATES.

In the January number of the "Practitioner" Dr. G. A. Gibson and Dr. R. W. Felkin record the singular effects of sodium salicylate in the case of a middle-aged woman to whom twenty grains were given every two hours for an attack that was taken to be of a rheumatic nature. Soon after she had begun to take the drug her pupils were found to be decidedly contracted, their reaction to light was absolutely lost, vision was distinctly impaired, tinnitus aurium and deafness were present, and there was severe headache, chiefly over the occipital and parietal regions. These effects soon disappeared, and the patient made an excellent recovery. The authors remark that such phenomena might lead to an error in diagnosis, and they are inclined to explain them in their case as due to an idiosyncrasy.

### VESICAL EXPRESSION.

In view of all that has been said about uterine expression, it is somewhat singular that heretofore nobody seems to have thought of employing compression of the urinary bladder in cases of retention not dependent on a mechanical impediment to the flow of urine. A recent number of the "Deutsche Medizinal-Zeitung" contains an abstract of an article contributed to the "Berliner klinische Wochenschrift" by Dr. Julius Heddaeus, in which the author states that he has often made use of vesical expression with success. He gives a minute description of two different forms of manipulation, but it is sufficient for all practical purposes to say that, with the patient in such a position as to relax the femoral muscles, the bladder is grasped with both outspread hands and gentle and steady compression from above downward and backward made by approximating the thumbs to the fingers, the force being directed toward the neck of the organ. The procedure is said to be painless and free from danger in properly selected cases. If, however, it is not successful readily, recourse must be had to catheterism, and it is contra-indicated in cases of abdominal inflammation or great tenderness and during pregnancy. Corpulence, abdominal tumors, and the like make it difficult and sometimes impossible.

### POISONING WITH CAFFEINE.

In the "Lancet" for February 2d Mr. T. Geraty gives a brief account of the case of a woman who, suffering with migraine, took by mistake 200 grains of citrate of caffeine. At first she complained only of the nauseating taste. As soon as she had eaten a little porridge faintness and nausea came on. In fifteen minutes after having taken the drug she was partly unconscious, much depressed, and extremely pale; all the muscles were completely relaxed, and there was a decided inclination to sleep; the pulse was slow, soft, and very compressible; and the respiration was slow and sighing. An emetic of a twelfth of a grain of apomorphine having acted promptly and very thoroughly, small quantities of brandy were given, she was kept recumbent, and warm applications were made. In about an hour after she had swallowed the caffeine there was a well-marked chill. She recovered consciousness in about an hour and a half after the vomiting, and the faintness passed away gradually.

## ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 19, 1889:

| DISEASES. | Week ending Feb. 12. | | Week ending Feb. 19. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 13 | 1 | 12 | 4 |
| Scarlet fever | 366 | 50 | 351 | 53 |
| Cerebro-spinal meningitis | 4 | 1 | 0 | 0 |
| Measles | 303 | 17 | 292 | 26 |
| Diphtheria | 195 | 59 | 202 | 72 |
| Small-pox | 0 | 1 | 0 | 0 |

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 10 to February 16, 1889:*

The Medical Director will proceed to Fort Buford, Dakota, on public business connected with the Medical Department, and, upon completion of duty, will rejoin his station. Par. 8, S. O. 14, Headquarters Department of Dakota, St. Paul, Minn., February 5, 1889.

LORING, LEONARD Y., Major and Surgeon. By direction of the Secretary of War, the leave of absence on surgeon's certificate of disability granted in S. O. No. 6, January 18, 1889, Department of Arizona, is extended six months on account of disability. Par. 23, S. O. No. 35, A. G. O., Washington, February 11, 1889.

AINSWORTH, FRED. C., Captain and Assistant Surgeon, will, by direction of the Secretary of War, proceed to New York city and Brooklyn, N. Y., on public business. Par. 15, S. O. 38, A. G. O., Washington, February 14, 1889.

MEARNS, EDGAR A., Captain and Assistant Surgeon, is relieved from temporary duty at Fort Pembina, Dakota, and will rejoin his station, Fort Snelling, Minnesota, without delay. Par. 4, S. O. 14, Headquarters Department of Dakota, St. Paul, Minn., February 5, 1889.

**Society Meetings for the Coming Week:**

MONDAY, *February 25th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, *February 26th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Boston Society of Medical Sciences (private).

WEDNESDAY, *February 27th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield); Philadelphia County Medical Society.

THURSDAY, *February 28th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Cumberland, Me., County Medical Society (Portland).

FRIDAY, *March 1st:* Practitioners' Society of New York (private); Baltimore Clinical Society.

SATURDAY, *March 2d:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

# Proceedings of Societies.

## NEW YORK ACADEMY OF MEDICINE.

*Meeting of January 17, 1889.*

The President, Dr. A. JACOBI, in the Chair.

**Yellow Fever and its Ætiology.**—Dr. PAUL GIBIER, of Paris, read a paper thus entitled in which he gave the results of experimental researches instituted in Florida under the direction of the French government to determine the nature of the recent outbreak there. Dr. Gibier, who is assistant to the chair of pathology in the museum of Paris, investigated the yellow fever which appeared in Cuba in 1887, and has on several other occasions been sent on similar missions by his government. He first considered the question which had been raised, and not yet satisfactorily settled, whether the outbreak in Florida was one of veritable yellow fever. This had been doubted by some because of the relatively slight mortality of the disease and in view of the fact that many of those who died were blacks. It had been observed in the West Indies that usually the colored people escaped almost entirely. The explanation seemed to him to be that the exodus of white families from the infected districts greatly increased the proportion of blacks in the population. However, taking an equal number of whites and blacks who had contracted the disease, it had been evident that the blacks suffered less severely. Moreover, while some veritable cases of yellow fever in both races had been established by autopsies, it had been shown in the same way, and also by the symptoms, that bilious fever and malarial intoxication had been present in many of those who died, and, by inference, in still more of those who recovered, sometimes being the only cause of sickness, and sometimes being combined with the true yellow fever. Such a hybrid form of yellow fever had already been recognized by Professor Verneuil, of Paris. Owing to the unhealthy location of the negro quarter (on low ground across the river from Jacksonville) and their carelessness in the disposal of dejections and their general uncleanliness, the blacks had in all probability died as often from the malarial as from the yellow fever element in the epidemic. The daily intermittent temperature in the course of the disease in both whites and blacks which had been observed left us free to suppose either that the yellow fever element had been hereditary or endemic in that part of Florida since its previous appearance in Jacksonville, so as to blend with the malarial element proper to that locality, or that, having been brought in afresh, it had awakened more or less paludal disease the germs of which were already present in the systems of those it attacked. Owing to their filthy habits, the blacks, at least, had often suffered from a type of fever which deserved the term malignant in the same sense in which we applied it to typhus.

The investigations made had thrown considerable light on the relations of a specific bacillus to yellow fever. In three out of seven bodies which he had had opportunity to examine he had found in the intestinal contents the same bacillus which he had found in Havana in 1887. In these three cases death had occurred on the fourth day. In the bodies of three of the victims who had died on the eighth day no characteristic bacilli had been found. They might have been present in the earlier stages of the disease without persisting in the later, perhaps owing to a change from an alkaline or neutral to an acid reaction in the intestines. The bacilli of phthisis sometimes disappeared when the disease was advanced, in a somewhat similar way. The speaker considered it as fully established that there was a single specific bacillus in yellow fever, which liquefied gelatin, produced a black discoloration, and had the odor of black vomit—the same bacillus which Dr. Sternberg as well as he had found in Havana.

Neither in Havana nor in Jacksonville, when autopsies had shortly followed death, had this bacillus been found out of the intestinal contents. It seemed never to invade the blood or the solid structures and viscera during life, but, like cholera, had its natural residence in the alimentary tract. The early administration of bichloride of mercury, naphthaline, and tannic acid was the line of treatment pointed to, therefore, and was, beyond all doubt, the best one known.

It might be asked, "How is it, if the intestine only contains the pathogenetic bacilli, that the liver goes so rapidly into fatty degeneration, the kidney into nephritis (often the immediate cause of death), and the tissues at large into a tendency to hæmorrhages?" He would answer that all these were adventitious results due to the absorption of a ptomaine produced in the intestine by the microbe. This ptomaine reached the liver almost at once by the portal radicles, whence the fatty degeneration. Its effects on the kidney and the tissues at large might be explained on the same hypothesis as similar lesions which occurred in typhoid without the presence of a bacillus. Various poisons were known to produce them.

Two other facts the speaker had, as he believed, established in his various researches: 1. That yellow fever was a disease belonging only to the seaboards of warm countries. 2. That an infected ship might go for a time into arctic regions, during which time the germs remained latent (hibernated), but that on return to a hot latitude they became again active and communicable.

**Unusual Methods of acquiring Syphilis, with Illustrative Cases.**—Dr. L. Duncan Bulkley read a paper with this title in which he called attention to the many and scarcely suspected ways in which innocent people might acquire syphilis. He hoped: 1. That his paper might do something toward putting the public more on their guard against syphilis acquired in other ways than by impure connection. 2. That it might make every physician to whose notice it came more ready to recognize symptoms of the disease when there was no history of a sexual congress from which it could have arisen. 3. That it might do something to lessen the stigma and disgrace which were attached to the disease in whomsoever it might occur. 4. That it might aid in bringing about a legislative enactment by which syphilis should be classed with the infectious diseases and come under the control of the health authorities, and so in no long time be stamped out.

Forlier had estimated that a quarter of all women having the disease acquired it innocently, and this also frequently occurred in males. Out of fifteen hundred cases of which the speaker had record on his own books, a majority had come to him for skin diseases, and long after the primary sore had passed away. Only between four and five per cent. of them had remembered having had an initial ulcer. Quite a number had been certain that they had never had an impure connection. Forty per cent. of the women he had treated had acquired the disease by kissing their husbands or lovers. The initial lesions of *syphilis innocentium* appeared, according to circumstances, on either lip, the tongue, throat, cheek, chin, eyelid, nose, ear, hand, fingers, forearm, or breast. *Syphilis innocentium* had been divided, on the basis of the means by which the disease was acquired, into three varieties: 1. *Syphilis economica.* 2. *Syphilis brephotrophia.* 3. *Syphilis technica.* Or, in other words, syphilis acquired in the contacts of social life, or in the act of nursing, or through the medium of body service of different sorts.

Among the various articles mentioned under the first order as having in recorded instances conveyed the virus of the disease were tobacco-pipes, eating and drinking utensils of all sorts which came into contact with the mouth, cigars, pens, pencils, paper-cutters, and borrowed under-clothes, sponges, towels, combs, and tooth-brushes; even an opera-glass, a cane, plaster put on bruises, and the wrapping of a stick of caustic previously used in some syphilitic throat had in known cases conveyed the disease. In one of the instances related a gentleman who had a slight anal fissure had scratched himself to allay the itching when wearing a suit of bathing clothes at a sea-side resort, and had acquired the disease in a severe form, with secondary and tertiary symptoms, skin lesions, and bone pains following in due order. In another case a policeman had struck a syphilitic man in the mouth, and received a bruise on his hand from one of the teeth, from which he developed syphilis. In a third instance a reputable young lady had acquired the disease in an aggravated form by putting into her mouth pins whose previous owners she was ignorant of. In a fourth case a man had been bitten on the ear in a fight with another. Contrary to notions widespread among the laity, there were no records showing that the disease was ever acquired through contact with paper money or with public urinals and water-closets; and very few instances could be found of its having been conveyed by public drinking-cups. Instances were numerous where physicians had acquired it by making examinations in the throat and vagina; also of their having conveyed it to these parts by unclean instruments. A surgeon about to examine a sore on the glans penis of a patient had noticed a cut on his own little finger, and, holding the latter well back, had touched with it a sore not noticed till then on the scrotum. In spite of immediate washing and antiseptic applications, he had developed syphilis with all its stages, although under antisyphilitic treatment from the first. In industrial pursuits and trades large numbers of men had often been simultaneously infected, especially when any utensil was passed from mouth to mouth; thus, glass-blower's pipe, a musical instrument such as a flute, or a thread held in the mouth and passed to another. There seemed to be scarcely any cases where the germs had been conveyed through the laundrying of clothes.

The most active means of the spread of the disease, however, next to venereal contact, was by kissing. Children were thus often either its victims or its carriers. Instances under this head were innumerable. Scratching and pinching had conveyed the disease: contacts in bed with a friend or brother: even carrying an injured person to a house had furnished cases. The lips of nursing infants frequently received or conveyed the disease. Children were also infected in any of the ways already mentioned. Cases were constantly occurring in Russia, but sometimes in this country also, where the tip of the tongue used to wipe out a foreign body from the eye conveyed the disease. Vaccination, transplantation of teeth, and cupping were among the processes by which it had been carried. Razors, Eustachian catheters, urethral sounds, and specula had also been a means to the same end. In one carefully investigated case it had been concluded that a syphilitic man (a physician whose finger had been infected, and who refrained from kissing) had conveyed the disease to his wife through the spermatic fluid.

In reply to an inquiry by Dr. S. T. Hubbard, who had seen one case of the kind he inquired about, the speaker added that it was a disputed and quite doubtful point whether the virus was ever conveyed by the milk of a syphilitic nurse.

The President suggested that just as in any depressed condition the milk of a nursing woman became an excretion by which, for instance, drugs were thrown out of the system, so in syphilis, under like conditions, the milk might convey the virus.

## NEW YORK SURGICAL SOCIETY.

*Meeting of December 26, 1888.*

The President, Dr. Lewis A. Stimson, in the Chair.

**Complete Extirpation of Both Parotid Glands for Sarcoma; no Recurrence after the Lapse of Two Years.**—Dr. J. A. Wyeth presented a female patient from whom he had removed both parotid glands two years and a half ago, ligating the external carotid artery of each side. The disease returned on one side in six months, so that a second operation was necessary, but two years had now elapsed without a second recurrence. The operation was only performed at the earnest solicitation of the patient. It was unusually difficult, both jugular veins being exposed in the course of the dissection. Double facial paralysis was present after the operation, but it had disappeared on one side, probably from a restoration of the collateral circulation. The fact of special interest from a surgical standpoint was the ligation of the external carotid artery on the right side just at the point of bifurcation.

Dr. Gerster presented patients exemplifying the following conditions:

**Result of a Radical Operation for Umbilical Hernia.**—The patient (a middle-aged female) entered the German Hospital with a large umbilical hernia which caused her much discomfort. The sac was opened and was found to contain free gut and adherent omentum, which was dissected up, the redundant portion being excised. The neck of the sac was folded in according to Macewen's method and was sutured to the abdominal wall. The margin of the ring (which was as large as a silver dollar) was excised by two semi-elliptical incisions, and its edges were approximated with great difficulty, on account of the tension; it was necessary to use two large shawl-pins with figure-of-8 sutures. Four or five button-sutures and several of catgut were also used. The sac was injured at one point, owing to its firm adhesion to the edge of the ring. The pins were removed on the fifth day, and the button-sutures on the tenth. The patient was discharged, cured, four weeks after the operation.

**Radical Cure of Inguinal Hernia complicated with Abscess from a Foreign Body.**—The patient's history had been narrated at the former meeting.

**Radical Cure of Inguinal Hernia.**—The patient was operated upon by Macewen's method, which the reporter had adopted in ten cases within the past nine months. He had not found the technique so simple as it had been represented, since there was great variation in the shape and size of the sac and the relation of the cord to the latter. In one case the cord projected into the sac in such a way that it was invested by peritonæum in the same manner as the colon, the two layers of the sac meeting behind it, so that it was necessary to dissect it out vertically. Macewen's plan did not always insure against recurrence of the hernia, since the sac was often so thin that it did not form a sufficient plug. The reporter always supplemented the plug and Macewen's suture by separately suturing the pillars of the ring, especially in cases where the ring was very much widened. No drainage-tube was used; only a fillet of iodoform gauze at the lower angle of the wound. Most of the wounds healed well and by primary union; in two cases there was suppuration only along the track of the sutures that served to anchor the plug. In one of these cases suppuration was due to necrosis of a portion of the plug. Serious infection might be conveyed through this channel. Silk-worm gut was better than silk or catgut, and should be removed on the third day or soon after.

**Ununited Intracapsular Fracture of the Head of the Femur; Excision.**—The patient (a lad, seventeen years old) had entered Bellevue Hospital nine months before, and was treated for three months by fixation of the limb, without success. He went to other hospitals, and finally entered Mt. Sinai. There was shortening of the limb and distinct crepitus. As the boy was anxious to be cured, the reporter made an incision down to the joint, exposed the neck of the femur, and found the seat of fracture after opening the capsule. There was no evidence of callus-formation, but there was a distinct layer of cartilage in the shape of two facets over a portion of the end of upper fragment, showing that there was an attempt at pseudarthrosis. The head and neck of the bone were removed. The acetabulum was found to contain a spot of granulation-tissue as large as a quarter of a dollar, showing that hip-joint disease had begun to develop. The round ligament was much injected and brittle. The end of the lower fragment was trimmed off, and the case was treated like an ordinary hip-joint resection. The patient was now wearing a cheap and convenient form of splint devised by Dr. Gibney, known as the "polyclinic" splint, and had a good deal of motion preserved in the joint, which he was not allowed, however, to use without artificial support.

**Exsection of the Knee Joint for Tuberculosis.**—The patient, a man, aged fifty-four, was presented in order to demonstrate the incorrectness of the generally received statement that bony union after exsections did not occur in cases of tuberculosis in patients over fifty. In this case firm union was present at the first change of dressings, on the thirty-fifth day after the operation; nor was this the only case in elderly patients in the reporter's experience. Three steel nails were left in the bones until the dressings were changed. By using long nails they could be readily removed, as they did not become imbedded. There was no fistula present at the time of operation.

In reply to a question by Dr. Lange, Dr. Gerster said that the closure of the ring in the manner suggested by Macewen was not so firm as it was when Czerny's stitches were used in addition.

Dr. Weir said that most of Macewen's patients had been exposed to a two-years' test.

Dr. Wyeth thought that infection of the wound was most apt to occur at the change of dressings on the eighth or tenth day.

The President cited a case in which he did a third operation upon a patient for the radical cure of hernia, and divided the cord in two places in making the first incision through the old cicatrix. The ends of the cord were sutured, the operation wound healed promptly, and there was no evidence subsequently of any trouble in the corresponding testicle.

Dr. Weir asked if there was any evidence that the canal of the vas deferens was continuous.

Dr. Gerster said that he had once sutured the vas deferens for the same reason, inserting a piece of stiff catgut into the two ends and then uniting them with catgut. On the third day there was a gleety discharge from the urethra accompanied by swelling of the vas, but no other symptoms were noted. He was unable to say whether the lumen of the vas was patent or not.

The President said that there was no positive evidence that the testicle would atrophy under such circumstances, as the vas might be plugged for years in cases of epididymitis without apparent injury to the testicle.

In reply to a question by Dr. Lange regarding the case of intracapsular fracture, Dr. Gerster said that three fourths of an inch of the neck of the femur remained. He could not say whether it received any support from the acetabulum or not. The patient was able to walk about the ward without his splint.

Dr. Gibney remarked that the plaster was not properly adjusted, so little traction being made on the limb by the plaster that the splint only acted as a perineal crutch.

The President asked concerning the layer of cartilage mentioned. Was there any periosteum attached to the head of the femur?

Dr. Gerster replied that the cartilage covered part of the broken end of the upper fragment. The ligamentum teres remained, but was softened. No periosteem was attached to the head, which was imperfectly nourished.

Dr. Lange said that he had operated upon a boy with fracture at the epiphyseal junction. Suppuration had occurred and the hip had become ankylosed at a right angle; there was found united separation of the epiphyseal junction in such a way that the head was united to a different portion of the neck. Resection was performed and a good result was obtained, but several months after the operation dislocation occurred. There was marked shortening, flexion, and adduction. The speaker thought that orthopædic apparatus should be used for a long time after operation, so as to draw the femur toward the median line. In another case there was pseudarthrosis and shortening, but the patient could dance and walk well, although she tired quickly. The speaker had several adult patients who were quite helpless. He had found that Hessing, an instrument-maker in Germany, made the best apparatus.

**Amputation at the Shoulder Joint for Round-celled Sarcoma; Recurrence of the Disease and Subsequent Removal of the Scapula and Outer Three Quarters of the Clavicle.**—Dr. Lange presented a female patient, aged sixty-four, with the following history (also the specimen): Two years before she began to have numbness and formication in the fingers of the left hand. One year later a swelling appeared at the middle of the upper arm. In February her attending physician endeavored to remove the tumor, but desisted from the operation on account of the profuse hæmorrhage. A month later she consulted the reporter, who found an extensive sarcomatous swelling on the inner side of the arm. The axillary artery was first ligated, and then the arm was amputated at the shoulder; the hæmorrhage was very severe, especially from the posterior side, where half a dozen arteries as large as the radial were divided. The axillary was also cut accidentally above the point of preliminary ligation, but was at once secured. The patient made a rapid recovery. This occurred in April. At the end of October she returned with another large tumor, involving the whole axilla. There were no evidences of secondary deposits in the lungs. The subclavian artery was first ligated between the scaleni muscles, and then the entire mass was removed, included the scapula and its muscles and the outer three quarters of the clavicle, the ribs being laid bare. The incisions were necessarily somewhat irregular. The patient lost a great deal of blood, but the loss was made up by the injection of a large amount of fluid into the rectum. In order to prevent air from entering the subclavian vein, a temporary ligature was placed upon it. In another similar case the reporter found that ligation of the subclavian artery did not prevent copious bleeding. In a third case the artery was crowded backward so far that it was impossible to reach and tie it as a preliminary step, and the hæmorrhage was excessive. The patient recovered, to die in three months from a return of the sarcoma.

The patient presented was apparently in good health; the thorax protruded on the right side, which might be due to diminished pressure from removal of the arm and scapula. The percussion-rate was normal over the left lung, and the breathing was vesicular, but the patient had already begun to complain of trouble in breathing, and there was dullness at the upper part of the mediastium, which was doubtless due to enlargement of the glands. The sarcomatous growth was found to extend along the large vessels, and was removed as thoroughly as possible, but doubtless some diseased masses must have remained beyond the field of operation. The upper angle of the wound was intentionally kept open in order that any signs of recurrence might be observed.

The patient wore an artificial pad or shoulder devised by the reporter by fitting a silicate splint over a model of plaster of Paris.

**What is the Best Method of Dealing with Constricted Intestine in a Hernial Sac?**—Dr. A. J. McCosh read a paper on this subject. (It will be published hereafter.)

Dr. Weir said that he could recall five cases of gangrenous hernia in which the opening closed spontaneously; hence it seemed wiser to give the patient this chance. If marasmus developed during the continuance of the fæcal fistula, prompt resection should be performed. He was unable to state the condition of the patients subsequent to the healing of the intestinal opening. He had never seen any obstructive symptoms produced by this cicatrization.

Dr. Wyeth thought that it was important to ascertain the after-history of these cases of hernia in which there was so-called "spontaneous cure," in order to determine whether or not they succumbed to marasmus or to the stricture. In reply to a question by the president, he said that he could recall no case of this kind in which the patient had subsequently found it necessary to apply to another surgeon. He had never seen a case of so-called spontaneous cure.

Dr. Lange said that he had seen two cases of spontaneous cure after necrosis of the gut. He had lost one patient from collapse after immediate resection, and did not feel inclined to repeat the operation, but preferred to relieve the constriction and to temporize. It was always difficult to decide what to do with a gangrenous hernia. After dilating the ring and pulling out the gut, the latter might burst and thus cause infectious peritonitis. In such a case it might be better to let the gut alone. In one instance he overlooked a gangrenous spot on the imprisoned intestine and returned the latter to the abdominal cavity. Perforation occurred, and the patient died of septic peritonitis on the second or third day after the operation. When the presence of gangrene was suspected, it might be wiser to simply divide the ring and to leave the gut *in situ*.

Dr. Weir said that in two cases of gangrene of the hernia he had simply laid open the gangrenous bowel, and in the gut had burst spontaneously before he incised the sac; in one only had he found it necessary to relieve the strangulating parts.

Dr. Lange believed that in these cases it was sometimes necessary to do a sort of partial laparotomy.

Dr. Weir thought that nature generally relieved the constriction when gangrene occurred.

Dr. Wyeth cited a case in which, although perforation occurred, there was no escape of the contents of the gut. With regard to the length of the operation, in Dr. McCosh's case it was certainly not long. In his own case the speaker had taken a long time, but would only be half as long at another operation. He thought that it was safer to open the gangrenous intestine and allow the escape of its contents rather than to wait for spontaneous perforation. The amount of mesentery excised depended on the length of gut removed. He preferred silk sutures, as catgut did not stand the strain. Extra sutures should be introduced at the mesenteric attachment, as the gut was apt to give way at this point. If a fæcal fistula was established, enterorrhaphy should be done as soon as possible—within from five to fourteen days—on account of shrinkage in the intestine below the seat of perforation.

Dr. Lange said that only a few patients could stand immediate resection. Most surgeons advocated temporizing. It all depended on the amount of intestine affected.

Dr. Weir referred to the case of a woman operated upon by Cottrell, of Edinburgh. She was advanced in pregnancy and had a strangulated umbilical hernia. Fourteen inches of the transverse colon was gangrenous, and an artificial anus was established. Subsequently resection and reunion of the two ends of the colon were resorted to, and the patient, when seen by Dr. Weir, was making a good recovery.

Dr. Gerster said that it was important to distinguish two classes of cases. If strangulation had caused necrosis, but fœtid disintegration—that is, the loss of cohesion of the dead tissues—was not complete, there was some propriety in resorting to measures requiring considerable manipulation of the parts, as it was to be expected that unexpected laceration or rupture of the dead gut and escape of its contents would not occur. But when the necrosed gut had undergone actual chemical and textural disintegration to such an extent as to render a lesion of its continuity very probable by the slightest interference, exsection would be a very risky measure, not only on account of the great danger of contact infection of the peritoneal cavity, but also on account of the wretched general condition of the patient from sepsis usually encountered at that stage of the malady. No prolonged operation under anæsthesia will be well borne under these circumstances by any patient.

Dr. Kammerer thought that it was important to divide the ring. He cited two cases in which it had not been divided sufficiently, and the patients died with symptoms of shock. He had performed the secondary operation, but without success. In two cases of gangrenous hernia healing occurred spontaneously after the formation of an artificial anus; there were no ill results. In one instance there was an irregular rent in the gut, which healed in the course of eight days.

Dr. Briddon cited three cases of strangulated hernia in which recovery occurred without incision of the ring. He had seen several cases in which the constriction was so tight that it was necessary to divide it even after the bowel was opened.

## NEW YORK CLINICAL SOCIETY.

*Meeting of December 28, 1888.*

The President, Dr. J. W. Roosevelt, in the Chair.

**Some Forms of Glycosuria.**—Dr. G. M. Swift read a paper with this title, dealing with cases occurring in ordinary practice and also during pregnancy. In these days of urinary examinations many people were found passing some sugar, and it was important to determine if this was due to diabetes or not. Men of good physique were from time to time refused by life-insurance companies on this account. Such a man had recently been under his care. He was forty-eight years old, was subject to bilious attacks, and had chronic malarial disease. There was no history of exposure or mental strain. Just at the time he had applied for life insurance, five years before, he had been passing a large amount of urine, with ten grains of sugar to the ounce and seventy grains per diem. He had lost twenty pounds in weight. There were dryness and stickiness in the mouth. The sugar was increased by errors in diet. This condition had not altered since. The urine remained at 1·030 specific gravity, and contained uric acid and sometimes casts.

In a second case a merchant doing active daily work had been affected with constant thirst, and was found to be passing ten grains of sugar per ounce in his evening urine. A restricted diet, rest, and a few doses of calomel caused an immediate diminution of the sugar. Subsequently, however, it returned and reached twenty grains, but was immediately lessened by stopping his eating grapes and giving jambol seeds. His general health had continued good throughout.

The reader believed there were people passing saccharine urine who were not diabetics in the sense in which that term is regularly employed; they had no thirst, debility, or emaciation. It came about by a derangement of the glycosuric function of the liver. Segin, of Vienna, made two varieties of diabetes—the first due to a non-conversion of the carbohydrates in the liver, the second representing a change in the relation of the whole organism to sugar. The author thought a general understanding on this point a matter of grave importance on account of the apprehensions always created by a report from a life insurance examiner of sugar in the urine. He presented the subject for discussion, and asked the opinion of the society in regard to this question: Was such a glycosuria the first stage of diabetes?

The glycosuria of pregnancy was not generally treated of in the text-books, some of which did not even touch on it. Blot spoke of the sugar found in the urine of nursing women. Tarnier mentioned that sugar was more common in the urine of pregnancy. The author had found sugar present in the urine of a large number of pregnant women. It must have some significance. Was it a cause of pruritus vulvæ? He suggested that the kiestine found in the urine of pregnancy might be due to a conversion of sugar by the yeast fungus *Saccharomyces cerevisiæ*. The nature of the glycosuria of pregnancy he would like opinions on.

Dr. W. G. Thompson believed there was a distinct glycosuria which was brought on by transient circumstances, but which might run into true diabetes unless the general condition was made better. He thought such cases often began by a vasomotor disturbance, and instanced a case where irritation of the sympathetic nerves by a tape-worm brought on glycosuria lasting till the worm was expelled. The removal of diseased ovaries had cured it in other instances.

Dr. G. M. Tuttle thought the question of time had a strong bearing on these cases of supposed glycosuria; it was more a question of how long a man could pass sugar and not develop any other disorder or symptom. He related an instance where, after loss of sugar for fourteen years as the only symptom, a man had loss of patellar reflex, contracted pupils, and violent pains in the legs and stomach. He thought pruritus in pregnancy better explained by other causes than a saccharine urine.

Dr. G. A. Dixon and Dr. Beverley Robinson gave further instances in which obscure disorders accompanied glycosuria, and the latter related an instance where a patient suffered from intense headaches, the only suggestion as to the cause of which he had found in a red turbid appearance in the urine when treated with Fehling's solution.

The President suggested the presence of peptone as one cause of confusion in the employment of Fehling's solution; Dr. Mendelson, that coloring matters or other obscure substances might spoil the test; and Dr. Thompson, that an excess of urates, or the presence of medicinal substances which the patient had taken by the stomach, might act similarly. Upon inquiry from Dr. Tuttle as to what proof there was in any case that Fehling's solution was good and really reacted upon sugar that might be present, Dr. Mendelson suggested that it could be tested by a solution of pure grape sugar; he thought that failure of the test was often due to special ingredients in the urine which redissolved the precipitate given by the copper salt, or to the turbidity produced in other ways as already described. For very small amounts of sugar it might then be necessary to use the solution of bismuth and Rochelle salt in caustic potash.

The President thought there were cases with considerable sugar where Fehling's solution was not decolorized, and suggested the solutions of rhubarb or hydroquinone as useful at these times. On the whole, the instability and trickiness of Fehling's solution caused much confusion.

Dr. Mendelson had seen in Dr. Draper's practice many cases of glycosuria. Some of the patients undoubtedly recovered, while others went on into real diabetes and died in diabetic coma. There seemed to be a class of stout people with glycosuria the further development of which was very slow; but that an abnormal condition which persisted should receive the name of "physiological" seemed to him improper. Most of these stationary cases really tended to pass into diabetes. Especially if the patient contracted some other disease, such as bronchitis, was this disease likely to take an exceedingly severe form, the balance of health being very delicate and the reserve force being gone, while at the same time the glycosuria passed at once into diabetes. He considered glycosuria as representing a very serious state of bodily disorder.

The President objected to both "physiological albuminuria" and "physiological glycosuria" as being improper terms. Saeger's glycosuria limited to the liver was met with mostly in people past middle life. But it was very significant to observe that these patients were singularly apt to die of carbuncle, pneumonia, or bronchitis, and no great amount of any such disease was needed to kill them. Sometimes nervous symptoms went with such a glycosuria. He had met with cases of melancholia and hemiplegia caused in this way which ended in death by carbuncle or some septic poison.

## NEW YORK NEUROLOGICAL SOCIETY.

*Meeting of December 4, 1888.*

The President, Dr. George W. Jacoby, in the Chair.

**Tumor of the Pons Varolii.**—Dr. M. P. Jacobi presented a supposed case of this affection. It was that of a child, ten years of age, the illness dating from a fright three years before. The immediate symptoms had been trembling lasting two weeks. A little later the child had begun to walk as if intoxicated and to have difficulty in using the hands. About three months after the attack headache had been complained of for a number of weeks. The child had also begun to grow fat and the head had increased in size. During the past summer the circumference of the head had increased a third of an inch. At the present time the child was very fat, the chest and abdomen being particularly large. There was no actual paralysis. All of the muscles would respond to faradism, the peroneal muscles only requiring a current particularly strong. There was, however, a progressive paresis. The child could not sit upright and the head fell to the right side. She could walk only if supported, and all of the finer movements of the hands had been lost. There was intermittent external strabismus in the right eye and choked disc in both eyes, referred to a descending degeneration. The appetite was abnormally increased There had been no pain throughout excepting the headache referred to, and no sensory disturbances.

The case of tumor of the pons reported by Dr. Hun, of Albany, had presented strikingly similar symptoms. In this case the pons had been uniformly enlarged by a slowly infiltrating gliomatous growth.

Dr. Sachs felt especially indebted to the author of the paper for the opportunity of renewing an old acquaintance with this interesting case which he had seen and lectured upon at the Polyclinic in April. At that time the size of the head and the general condition had been about as at present, but the patient had been able to walk better. She had been able to walk across the floor with the assistance of her father, moral rather than physical support being required. The gait, however, had been uncertain, and the patient had reeled, he had thought, to the right side. He had also found the paresis greater upon the right than upon the left, and had noted an apparent paralysis of the right abducens oculi. The changes which he remarked were a progressive paresis of the arms and legs and slight increase in the size of the head. In the spring the speaker's diagnosis had been tumor of the cerebellum favored by the paralysis of the abducens, which had a long course along the ventral aspect of the cerebellum and might be affected by pressure from the growth. Such a fact would also explain the intermittent character of the symptom noted by Dr. Jacobi. He had not appreciated the objections to this diagnosis toward which the reeling and the vomiting certainly pointed. The knee-jerk was more marked upon the right. The ankle clonus had been obtained upon the left and not upon the right at all. Dr. Hun's had been a very rare case. The majority of cases of tumor of the pons had presented different symptoms. He made these remarks simply to justify his diagnosis. Dr. Jacobi had gone more fully into the case, and possibly had developed further evidence.

Dr. W. A. Hammond asked why a multiple lesion was excluded.

Dr. Sachs suggested that if one lesion could not be definitely located, the indications for a multiple lesion must be even more obscure.

Dr. Hammond inquired as to the condition of the intelligence.

Dr. Jacobi thought that the intelligence was normal. The child could relate the circumstances of the initial fright very clearly, and had made inquiries in regard to the prognosis in her case.

Dr. Hammond noted a tendency to staccato speech. He had seen a number of cases of tumor of the cerebellum. He referred especially to the case reported by Dr. Gibney. The distinctive symptom of tumor of the cerebellum when uncomplicated with pressure upon the pons was inco-ordination without paralysis, while that of pons lesions was a gradually increasing paresis. He had seen also a good many cases of injury to the cerebellum by arrow wounds, bullet wounds, etc.—perhaps twenty cases in all. These were more likely to furnish indications in regard to the functions of the cerebellum than cases of tumor where the effects of pressure complicated those of the destructive lesion. He had never seen a case of either tumor or injury of the cerebellum without vertigo and nystagmus.

Dr. Jacobi said that the diagnosis had been studied between an intracranial tumor and a diffuse hypertrophic sclerosis of the brain with a generalized lipomatosis. The latter was excluded by the absence of the more distinctive symptoms of pseudo-muscular hypertrophy and by the existence of the choked disc, the latter pointing positively to intracranial disease. Diffuse sclerosis was among other symptoms invariably attended by convulsions, which had been entirely absent in this case. Intracranial tumor was diagnosticated, therefore, by exclusion as well as by the positive symptoms, and by further analysis located in the pons. The speaker had not known that the case had been previously seen by Dr. Sachs or that a clinical lecture had been delivered upon it. The later stage of the affection accounted for the main differences between the symptoms reported by her and those noted by Dr. Sachs. She had not, however, referred to a paralysis of the external rectus, but to an intermittent spasm. The muscle could at all times readily be exercised. The history of vomiting was limited to two occasions in May, and was not more marked than might have been accounted for by some digestive disturbance. There was not only inco-ordination in this case, but complete incapacity. In lesions confined to the cerebellum, standing was simply difficult. In this case standing was impossible.

**Weak Heart and its Treatment.**—Dr. W. A. Hammond followed with a paper with this title. The paper referred simply to weakness of the muscular structure of the heart uncomplicated by dilatation or valvular disease. The affection was very common, and, while it might be fatal in its results, it might also be relieved entirely by treatment which could be resolved into medicinal, gymnastic, and dietetic. Digitalis was the main medicinal remedy. The author had never observed the so-called cumulative effect of this drug. He thought, on the contrary, that it required increasing doses. He administered the infusion in two-drachm doses for two weeks, then he increased the dose one fourth, repeating the increase at the end of the second fortnight. Convallaria he considered uncertain and unreliable. Strophanthus he thought of more value. Where there was intolerance to digitalis, this drug might be given. Strychnine was a valuable remedy in weak heart. He prescribed a grain in an ounce of dilute phosphoric acid, ten drops three times a day. Cocaine was a valuable remedy, a fifth of a grain being given three times a day. It had been his habit to add two grains to a pint of Malaga wine, a wineglassful being used at a time. Inhalations and hypodermic injections were required often in the weak heart of disease. Hypodermically he had used brandy, digitaline in one-twentieth-grain doses, and nitrite of amyl, two drops diluted with thirty drops of glycerin. Glonoin was useful in one-hundredth-grain doses. Medication was, however, only temporarily useful. Exercise was required for the permanent relief of this condition. Mounting stairs was mentioned as a convenient form of exercise. People living in the country might mount hills. The physician should, however, be in attendance, and the exercise should be suspended when the action of the heart had accelerated fifteen beats a minute, to be resumed upon its tranquilization. The author's sanitarium in Washington would contain a modified tread-mill in which such exercises could be taken.

The dietetic treatment of weak heart referred particularly to ingested liquids, the quantity of which should be limited. By lessening the amount of liquids ingested, the total amount of blood in the body was diminished and the work of the heart lightened. In some cases he had reduced the daily quantity to twelve ounces, with marked improvement within forty-eight hours. The diet was further modified so as to reduce the amount of fat if this was excessive. The author made no claim of originality in this treatment. He was aware of the work of Oertel and others. He presented the matter, however, as approved by his own experience and observation.

Dr. Leale referred to the numbers of recently enlisted soldiers who fell in the grand review in Washington, their previous occupations having been largely sedentary and predisposing to weak heart, which failed them in response to the demands of the unusual exertion of this occasion. In five hours ten ambulances had been filled, the speaker having been detailed to pick up those who thus fell by the way. The weak heart of typhoid fever and diphtheria was briefly alluded to. The weak heart of adolescence was often encountered, the child, from close school attendance or other sedentary habits, having failed to develop heart muscle sufficient to accommodate the growing frame.

Dr. Heineman had been very much interested in Dr. Hammond's paper. He was interested to know of the sanitarium referred to. He had during the past year visited a number of these institutions in Europe, and thought it to be regretted that in this country we had so generally failed to avail ourselves of the peculiar advantages which they afforded. Weak heart was one of the most common conditions met with in medicine; it was almost as common as dyspepsia. While actual disease of the heart might not be detected in connection with the condition, the sounds would be found not what they should be, and the radial artery would be found never more than half filled with blood. The causes for weak heart were often dyspepsia, lithiasis, and excesses of various kinds—alcoholism, tobacco, and excessive coitus. The treatment should be directed first toward the removal of the cause—bad hygienic surroundings, anæmia, or whatever it might be. Iron or the oxygen treatment were often efficacious. In regard to digitaline, he could say that he had seen the cumulative effect, although not perhaps the cumulative effect of the materia medicas, which he thought was exaggerated. He had seen the pulse under the influence of digitalis one day 80 or 90 and the next day 40 or 50, as strong or stronger than before. Convallaria was, he thought, useful combined with digitalis in the cases of heart failure in children and in cardiac dilatation. Cocaine was valuable in curing anæmia, as well as for its direct action upon the heart. In a recent case he had prescribed the wine of cocaine, intending to combine it with iron, but at the end of a week had found the anæmia so much improved that the iron was considered unnecessary.

In the diagnosis of the weak heart of adolescence alluded to by Dr. Leale, it was well to bear in mind the condition of congenital narrowing of the aorta to which attention had been directed by Fräntzel. This was not infrequently a cause of sudden death in young people. The speaker would not pretend to diagnosticate the condition except by exclusion. In regard to the question of exercise, he hoped that treatment would not be systematized upon the plans in vogue in Europe. In the Black Forest there were paths specially designated for pulmonary diseases, and other paths for other complaints. He had seen a sign on one of these paths reading, "This is the end of the Oertel treatment." There was a rule, too, that a sanitarium for pulmonary affections should be built at the foot of a hill, so that the patient, having taken his exercise in climbing the hill, could easily get back. There was also conflicting evidence as to the value of these "cures." The Oertel treatment was regarded unfavorably by the Brothers Schott, who substituted a system of resisted movements—a species of wrestling with the nurse under the supervision of the physician. Cardiac calisthenics was the appropriate title of these exercises.

Dr. Hammond said that he was pleased to have called out so many interesting remarks. One important point in ætiology had, however, he thought, failed to be recognized. This was that a normal heart, under ordinary circumstances, might become a weak heart by simple increase in the general body weight. He had a personal experience upon this point. His ordinary weight was two hundred and forty pounds. When it increased to two hundred and sixty pounds, which it did about twice a year, he was troubled with weak heart. He was then accustomed to apply his own prescriptions as to diet and exercise. In this way he could reduce his weight thirty pounds in thirty days. He then again ate and drank what he pleased. When he went up to Mackinaw this summer he had been suffering from weak heart. When he returned he could climb anywhere, and was perfectly comfortable.

It might not be out of place to add that an eminent surgeon recently deceased in New York had lost his life from this cause. The case had been at first reported as one of cerebral hæmorrhage, but hæmorrhage, except into the medulla, did not instantly destroy life, and subsequently the conclusion of heart failure had been reached.

The PRESIDENT expressed the indebtedness of the society to Dr. Hammond for coming from Washington in order to be present at this meeting.

## Book Notices.

*A Manual of Ophthalmic Practice.* By CHARLES HIGGENS, F. R. C. S. E., Ophthalmic Surgeon to Guy's Hospital, etc. With Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. 8–314. [Price, $1.75.]

THIS work is divided into two parts and nineteen chapters. The first three chapters are devoted to the subject of optics, errors of refraction and accommodation, and the methods of examination of the eye and its appendages, in which there is but little to criticise and much to commend. The treatment advised for ophthalmia neonatorum we believe to be insufficient, as no mention is made of the necessity of iced applications or of the use of nitrate of silver to cut short the disease. The use of an ointment of yellow oxide of mercury, atropine, and cocaine for the same disease is not a good method of treatment, and is lacking in cleanliness, which is the great desideratum in this disease. As regards membranous ophthalmia, Mr. Higgens is perfectly correct in describing it as a distinct disease, differing from diphtheritic conjunctivitis. It is probably a higher grade of purulent inflammation. It is to be regretted that the author clings to the very faulty term "corneitis" to describe inflammation of the cornea—one that has been given up by all ophthalmologists except the English. We think he is wrong in giving the name "keratitis punctata" to the form of disease which he describes as infiltration of the cornea in spots, as the term has always been applied to that condition in which an iritis is the main lesion, and the punctate deposit is upon the membrane of Descemet, the inflammation of the cornea being a secondary process. In speaking of purulent inflammation of the cornea, with formation of abscess, the author makes no mention of the modern treatment by the galvano-cautery. A rather remarkable statement is the advice given to instill eserine in cases of cyclitis, since it is a well-known fact that eserine is a direct irritant to the ciliary body. A minor fault is the substitution of the term "displacement" of the retina for the classical term "detachment." In the chapter on "Amblyopia, Amaurosis, and Functional Failures of Sight," the definition given of "blunt sight" or amblyopia in squinting eyes is misleading.

When we come to operative procedures, considerable criticism may be passed upon a number of surgical methods advised by the author. His mode of slitting up the canaliculi by means of a grooved director is extremely awkward and entirely unnecessary. In the treatment of convergent squint the author's ideas as to whether one or both eyes are to be operated upon, and, if only one, which one of the two, are very faulty and need correction. In regard to this, the most complicated subject in ophthalmology, it is absolutely necessary to have definite ideas as to what is to be done, and these ideas we possess, based upon positive facts. It is very rarely necessary to employ a strabismus-hook in performing a simple tenotomy of the ocular muscles, and its employment may cause too wide an opening in the capsule of Tenon. Some of the instruments employed in operations upon the eye, especially in iridectomy, seem unnecessarily clumsy, if correctly represented by the illustrations. This is notably the case with the bent iridectomy knife and iris forceps as pictured on page 248.

The book is provided with a very good index, and will doubtless prove useful to the class of students and practitioners for whom it is meant.

*A Text-book of Physiology.* By M. FOSTER, M. A., M. D., LL. D., F. R. S., etc. With Illustrations. Fifth Edition, largely revised. Part I—comprising Book I—Blood, the Tissues of Movement, the Vascular Mechanism. London and New York: Macmillan & Co., 1888. Pp. xviii–352. [Price, $2.60.]

CONSIDERABLE changes and pages of additional work render this edition more systematic and continuous from the scientific standpoint. From the consideration of the difference between dead and living tissue, both being substances of considerable potential energy, the living tissue differing in that the sources of energy are constantly renewed in and by itself, the study of physiology is divided into two sections—one dealing with the renewal of substance and the replenishment of energy, the other with the setting free of the same.

General considerations on nutrition, assimilation, and metabolism are irreproachably worked out on the basis of analogy between amœboid life and that of the specialized living mechanism, the human body.

In the description of the blood special attention is devoted to the chemistry and physiology of the leucocytes, by the life of which the process of metabolism is emphasized still further. In order to explain the transmission and distribution of the blood in the body through the vascular mechanism, which entails active movements, the study of the contractile tissues is dwelt upon at length, and the section is closed with a consideration of the vascular mechanism. The work may be read in general with the greatest satisfaction, and it remains only to welcome the parts that are still to come.

*A Compend of the Diseases of the Eye,* including Refraction and Surgical Operations. By L. WEBSTER FOX, M. D., Ophthalmic Surgeon to the Germantown Hospital, etc., and GEORGE M. GOULD, M. D. Second Edition, revised and enlarged, with Seventy-one Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. xiii–9 to 164. [Price, $1.]

THE first edition of this compend was published in 1886. Some new matter has been added to the letterpress, and also some new illustrations have improved the book. Among these additions are a series of tables representing the various positions of the double images in paralysis of the ocular muscles. We regret to see that the authors again confound membranous and diphtheritic conjunctivitis, and that they are entirely wrong in regard to the pathology of the latter affection. There is no membrane formed on the conjunctiva in diphtheria, and it is therefore misleading to speak of such a membrane. The illustrations are mainly good, and the descriptions of the various diseases are concise and correct. The work will probably prove as useful as the first edition, and is much better than some of the compends in the same series.

*Practical Anatomy.* A Manual of Dissections. By CHRISTOPHER HEATH, F. R. C. S., Holme Professor of Clinical Surgery in University College, London, etc. Seventh Edition. Revised by RICKMAN J. GODLEE, M. S. Lond., F. R. C. S., etc. With 24 Colored Plates and 278 Engravings on Wood. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. xvi–598. [Price $5.]

THERE are very few books so useful in the dissecting-room as this. It does not purport to be general or descriptive, but it introduces much surgical anatomy in the form of operations for the advanced student to perform on the cadaver previous to dissection of the part. Such a course of teaching is to be commended, as it accustoms the student to the observation of surgical landmarks, and makes the knowledge gained by the dissection more definite. Without this training, the student who has conscientiously dissected his parts is apt to have but a misty idea of the exact relations of the structures beneath the skin. These have escaped him, though he may be able to describe each muscle, artery, and nerve.

The necessary steps in making a dissection are described in a brief, comprehensive manner, and can easily be followed by any one with some slight experience in dissecting. But these can hardly be detailed too minutely for a beginner, and it may be a question whether they are sufficiently minute or not.

The illustrations are numerous and well cut, and serve admirably as adjuncts to the text. Twenty-four colored plates from Maclise's "Surgical Anatomy" occupy the front part of the book. Some important additions have been made to the sections on the brain and on the thorax. The work is written in a terse, vigorous style, is well got up, and is to be recommended to every student of anatomy.

*A Manual of General Pathology*, designed as an Introduction to the Practice of Medicine. By Joseph Frank Payne, M. D. Oxon., F. R. C. P., Physician and Joint Lecturer on Pathological Anatomy at St. Thomas's Hospital, etc. With One Hundred and Fifty-three Illustrations. Philadelphia: Lea Brothers & Co., 1888. Pp. xiv-17 to 528. [Price, $3.50.]

This book is certainly an excellent manual for students. It fairly fulfills the intentions of its author. Without attempting comprehensiveness, or expecting to make the work a book of reference for professional men, the author presents to the student a series of admirably arranged and well-written chapters. Each important department of his subject has its distinct chapter. The leading facts connected with physiology and ætiology are carefully reviewed at the beginning of each chapter. The style throughout is terse, almost epigrammatic; all that is positively known in some lines of investigation is often expressed in a single short sentence. Disputed points are stated, but conflicting evidence is not given where no conclusion is reached. Little attention is given to minute cellular pathology as compared with the gross features, appearances, and symptoms connected with the processes of disease. The chapters in the second half of the book, which is devoted to the causes of disease, are grouped about the central idea of pathogenetic micro-organisms in so far as they have a known or probable relation. The book is sure to become a reliance to all students who need to get the pith of the subjects treated of in as condensed and lucid a form as possible.

*Pathogénie et traitement de la kérato-conjonctivite phlycténulaire* (ophthalmie des scrofuleux). Par le Dr. V. Augagneur, Agrégé à la faculté de médecine, etc. Lyon: Vitte & Perrussel, 1888. Pp. 5-30.

This little brochure presents in a brief, clear manner the author's views in regard to the pathogeny of phlyctenular conjunctivitis and keratitis. He rejects the idea of their so-called scrofulous origin as altogether too vague. He calls attention to the frequent coincidence of phlyctenular troubles with eruptions on the face, lips, and scalp in children, and to the possibility of inoculation of the conjunctiva by the fingers of the child soiled with pus from the scalp. Moreover, the suppuration extends by successive invasion from the scalp to the temples, forehead, and lids, until it finally reaches the eye. Still this does not explain the interminable relapses of phlyctenular conjunctivitis. In twenty-six cases which he has studied there was present a chronic rhinitis. This rhinitis is of various forms, sometimes being an actual impetiginous inflammation of the internal surface of the nostrils. It should always be looked for in these cases. It is often accompanied by a swelling of the upper lip, which is a sequence of the nasal lesion. To this rhinitis he attributes the great majority of cases of phlyctenular kerato-conjunctivitis. The original cause is a mechanical irritation, infectious, caused by parasites. The nasal lesion has its microbe, which passes from the nose into the lacrymal passages, and thence to the conjunctival sac, which becomes inflamed, and subsequently the cornea is attacked. The treatment of this form of ophthalmia is singularly abbreviated by disinfection of the nasal fossæ and by the employment of antiseptic powders. The crusts in the nose are to be washed off by a warm irrigation, and for a short time the ulcerations are covered with a mixture of vaseline and boric acid. After this an antiseptic powder, composed of equal parts of pulverized camphor, boric acid, and subnitrate of bismuth, is to be insufflated or snuffed up ten or twelve times a day. Under this treatment the rhinitis is cured, and likewise the ocular inflammation.

*Landmarks Medical and Surgical.* By Luther Holden, ex-President of the Royal College of Surgeons of England, etc. Fourth Edition. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. 79. [Price, $1.25.]

This edition of Mr. Holden's classical work presents but few changes. Some additions have been made concerning certain nerves and arteries heretofore omitted, and about a page and a half is devoted to the "Effects of Tight Lacing," which are pointed out in the clear and succinct manner peculiar to the author. Many sentences have been remodeled to improve the literary style of the work rather than to change its substance.

# Reports on the Progress of Medicine.

## OTOLOGY.

By CHARLES STEDMAN BULL, M. D.

**The Determination of the Acuteness of Hearing.**—Barth ("Arch. of Otol.," xvii, 2) thus reviews the points which must be taken into consideration with practical tests of hearing: I. A physically exact test for hearing is excluded by the needs of practice, (*a*) because the physical principles necessary for this are as yet too imperfect; (*b*) because too little is known of the relations between physical and physiological occurrences; (*c*) because the inequality of instruments and of external circumstances does not allow us to work with absolutely definite and constant values. II. The method of expressing the acuteness of hearing in numerical values of amplitude or of physical intensity has absolutely no value for us, (*a*) because tests of hearing, complicated in themselves, would be rendered still more unintelligible by such observation and calculation; (*b*) because, on account of the difficulties mentioned above, the given values would have, at best, no more claim upon accuracy than already exists with our methods; (*c*) because we would get absolutely no idea of intensity of the perception from the resulting numbers. III. The methods now employed of recording the acuteness of hearing in simple numbers, representing the distance and the time of hearing, respectively, are, up to the present, the most useful, (*a*) because they are relatively simple; (*b*) because they are as accurate as other methods, and have a scientific foundation; (*c*) because we can obtain a very good idea of the intensity of perception from these simple numbers.

**The Influence of Pilocarpine upon the Mucous Membrane of the Tympanum.**—Kosegarten (*ibid.*) has drawn the following conclusions from his observations and experiments: Injections of pilocarpine seem to have a decided influence upon the mucous membrane of the middle ear, and therefore in chronic processes of the middle ear, accompanied by affections of the labyrinth, this remedy acts not only upon the internal ear, but may also exert a favorable influence upon the middle-ear process. By means of returning hyperæmia, which may even cause exudation, there ensue pliability of the sclerosed tissue and moistening and softening of adhesions, and in this way the unyielding conducting apparatus again becomes more capable of vibrating. Where exudations become deposited, their absorption may be brought about. It should not be forgotten that in these chronic processes nothing can be accomplished except by long-continued action.

**Tuning-fork Tests.**—Steinbrügge (*ibid.*) calls attention to the fact that Weber's experiment originally referred to the behavior of the normal ear when the meatus was closed or covered in such a way that a space for resonance was formed. The fact that the fork is heard by bone-conduction in the closed ear better than in the other may be due to an increased reverberation. Steinbrügge thinks that hyperæsthesia of the auditory nerve may be the chief reason why the sound of the fork is prolonged by bone-conduction. If the tuning-fork is heard by bone-conduction better in the diseased ear, or in the more diseased ear of the two, one auditory nerve must be more sensitive than the other to the waves of sound that are conducted by the cranial portion of the bone-conduction. This hyperæsthesia is most distinctly observed in fresh cases, no matter whether the disease is located in the middle ear or in the labyrinth. If the disease lasts longer, the excitability of the nerve sooner or later decreases and falls below the normal. The latter is also seen in old age, and may be due to degenerative processes which, in the widest sense of the word, affect the auditory nerve. The bone-conduction is then correspondingly less intense and shorter. The frequency of morbid changes in the sound-conducting apparatus explains why the hyperæsthesia is rarely noticed by aerial conduction. Steinbrügge holds that the nervous apparatus is affected when subjective noises and vertigo are noticed, no matter whether the original affection starts from the tympanic apparatus or the labyrinth. This auditory nerve will in most of the fresh cases be hyperæsthetic, and the fork will be heard louder by bone-conduction in the affected ear, because the sound-perceiving apparatus is constantly affected at the same time. The anatomical relations support the theory that the nervous apparatus is generally hyperæsthetic during tympanic inflammation. The frequency of this condition may also be supported by various reported cases of reflex excitation of the auditory nerve from irritation of peripheral portions of the ear. It may be fairly assumed that the auditory nerve in peripheral diseases of the ear participates in the disease of the tissues which surround it. Physical causes will exert some definite action on the results of the tuning-fork experiments, together with whatever excitability of the auditory nerve may then be present. Instead, therefore, of classifying aural affections according to anatomical or physiological subdivisions, it would seem more advisable to study their various transformations and combinations.

**The Graphic Representation of the Results of the Tuning-fork Test.**—Hartmann (*ibid.*), by a series of observations, shows that the results obtained with different tuning-forks that are put in vibration by being struck by the hand are, if the mean of three experiments is taken, just as accurate as those obtained with tuning-forks that are made to vibrate by a mechanical striking apparatus. It is perfectly proper to express the hearing acuteness of a patient numerically by comparing his clang-time (the duration of perception of the sound of a tuning-fork from the moment it is struck until it dies out) with the "clang-time" of a normal hearing ear. This determination by tuning-forks, with the same pitch and the same initial amplitude, is independent of the logarithmic decrement of the vibrations of the forks.

**Remarks on the Diagnostic Value of Rinne's Experiment.**—Bezold (*ibid.*) gives the following results from his new investigations on this subject: 1. Positive and negative variations in pressure conveyed through the Eustachian tube are shown by the manometer to be four times as great as the same influences proceeding from the auditory canal with closed tympanum. 2. When the variations of pressure are allowed to act directly and exclusively upon the fenestra rotunda, the manometer registers about the same result as that obtained from the Eustachian tube. 3. If the connection between the incus and stapes be severed, and, the tympanum being closed, the experiment be repeated from the Eustachian tube, the manometer shows a still further increase of a quarter. These observations have convinced Bezold that the action of variations of atmospheric pressure, produced within the middle ear through the Eustachian tube, is concentrated almost exclusively upon the membrane of the fenestra rotunda, while influences coming from the opposite direction, and acting on the drum-membrane and base of the stapes, seem to be almost neutralized.

**The Decrement of Sounding-out Tuning-forks.**—Barth (*ibid.*) has become convinced from his own investigations that, under constant conditions, the decrement of sounding-out tuning-forks is constant. He devotes this paper to an enumeration of the large number of errors entering into these observations as follows: 1. The aberration of the lenses, a source of error which can not entirely be obviated. 2. The vibrations caused by pushing the plate forward, the movements of the photographer, and the street traffic, which doubtless are conveyed to the tuning-fork, and to a certain extent interfere with and tend to diminish its vibrations. 3. After a while it is possible to regulate the movement of the plate so nicely that the blow of the hammer and the stroke of the metronome are heard as a single sound; still minute variations will often occur. 4. The light-point has a definite size, and, if we fail to subtract this from the entire series of amplitudes, the smaller vibrations will be too great in proportion to the more extensive ones. This error increases instead of decreases as the amplitudes are more strongly magnified. 5. With the more extensive amplitudes an equal amount of light must be distributed over a larger area in the same time than with the smaller ones; the former are therefore proportionally less distinct, especially at the ends, as with each vibration the amplitude diminishes. Therefore with this method of measuring, the ends of the lines which represent the amplitudes of the vibrations become somewhat indistinct. 6. When the greater amplitudes are scarcely recognizable, the smaller ones show over-exposure. This results in radiation and blurred outlines, which cause the lines to appear too long upon measurement.

**Remarks on Weber's Test with the Vertex Tuning-fork.**—Gellé ("Rev. mens. de laryng. et d'otol.," August 1, 1888) draws the following conclusions from his investigations: The occlusion of the meatus by the finger causes a slight increase in the strength of the sound which the very deaf will not hear, but which patients who have recently become deaf still perceive. The digital pressure of the auditory meatus is confounded with the occlusion of the same, but reacts on the conducting apparatus as far as the labyrinth. It may bring out the binaural reflex symptoms, but it is not graduated; it is often unequal and difficult to execute; it is not always endured by the patients. Still, it is so simple a procedure that it may be always employed, as it is of especial value in lesions of the conducting apparatus, and often reveals the condition of the deep parts, such as their mobility, especially that of the stapes. The possibility of mobilizing or of displacing the sound of the vertex tuning-fork constitutes an excellent prognostic sign. The effect of digital pressure, though absent at first, may later become very marked, and observation shows that the reappearance of the mobilization of the cranial sound coincides with the amelioration of the pathological condition.

**Auditory Reflexes; the Oto-spinal Reflex Center and its Seat in the Cervical Portion of the Spinal Cord.**—Gellé ("Ann. des mal. de l'oreille et du larynx," September, 1888) comes to the following conclusions: 1. In binaural audition, the movements of accommodation, the muscular activity of the motors of the apparatus of transmission, are brought into play both simultaneously and synergetically. 2. By pressure exerted on one of the auditory organs, an effect is produced upon the other; the movement experimentally produced in one ear provokes an active reflex movement in the other ear, entirely identical. 3. If a vibrating tuning-fork is placed in front of the free ear, while pressure is made upon the air-bag fitted into the auditory canal of the opposite ear, the subject perceives a diminution in the sound of the tuning-fork, due to the tension of the apparatus which is synergetically communicated to it; this is the proof of binaural reflexes. 4. This method of exploration demonstrates the mobility of the stirrup, the activity of the motors and their changes; it is therefore an important test of auricular semeiology. 5. When the ears are healthy, the normal audition of the two sides, the synergetical effect upon the accommodation of the free ear, may be wanting; in such a case the cause is extra-auricular; it is the reflex center itself which has ceased to unite the two organs and associate their movements. 6. Clinical observation shows that this disappearance of the auricular reflex coincides especially with lesions of the cervical portion of the spinal cord. 7. These reflexes do not seem to bear any relation to pupillary reflexes, but the cases observed seem to show that the binaural reflexes are more easily influenced by the lesions of hypertrophic cervical pachymeningitis. 8. The study of medullary lesions necessitates an investigation of binaural accommodation. 9. The center for the reflex movements of binaural accommodation is situated in the cervical portion of the spinal cord, as they disappear in the course of diseases of this region of the cord.

**Meniere's Disease.**—Brunner ("Arch. of Otol.," xvii, 3) thinks that, as the name "morbus Ménière" describes no special disease, but only a complex of symptoms, it would be better to speak of *vertigo Ménière.* Only such conditions should be classified under this head in which the attacks of dizziness occur suddenly, without known cause, with distinct intermissions, without fever, with more or less intense subjective noises ushering in the attack, and with a rapid or only gradually occurring deafness. Vertigo Ménière may be caused by pathological processes in the brain. There are no absolutely certain signs for differential diagnosis, but disturbances of hearing are only exceptionally present in lesions of the cerebellum or crura cerebelli, and, if present, they are only as a result of accidental pressure upon some of the adjacent fibers of the acoustic nerve. Ordinarily, vertigo Ménière has its origin in some pathological condition of the labyrinth, primary or secondary. The separation of the severe cases from the mild ones seems indicated, since the two are apparently dependent upon different anatomico-pathological bases. Some cases of the severe form may be dependent upon hæmorrhage into the labyrinth; some of the milder form on vaso-motor neurosis. A large number of cases depend upon a pathological condition of blood-pressure in the labyrinth, and a retarding or obstruction of the efferent channels for the perilymph and the endolymph is a very important factor in this affection. In favor of a vaso-motor or neuritic origin of vertigo Ménière there seems to be the "aura vertiginosa" preceding the attack, slight functional disturbances appearing only gradually; a certain regularity and frequency of the attacks; the effect of quinine in cutting short or at least moderating the attacks.

**A Communication upon the Medical Duplex-Inductorium.**—Wreden (*ibid.*) gives the results of his electro-otological studies as follows: 1. Excitation of the acoustic nerve by the galvanic current gives the same reaction formula as with motor nerves. 2. Excitation of the acoustic nerve by the faradaic current occurs as regularly as when produced by the galvanic current; the interrupted inductive current naturally produces interrupted auditory sensations, while the constant current causes continuous auditory impressions. 3. The manifestations of excitation of the ear by galvanic as well as by faradaic currents are not due to direct but to indirect irritation of the acoustic nerve, and are demonstrated by direct irritation of the facial nerve, through contraction of the stapedius muscle with following pressure-irritation of the end apparatus of the acoustic nerve in the labyrinth. 4. Applications of the galvanic as well as the faradaic current of not too great intensity to the Eustachian tube produce severe manifestations of irritation in the area supplied by the third branch of the trigeminus and none in that of the facial nerve, while these same currents cause severe manifestations of irritation in the parts supplied by the facial nerve (and acoustic nerve), and none in that of the third branch of the trigeminus when the electrode is applied to the tympanum. 5. The treatment of the diseased ear with the galvanic current by Brenner's method has neither diagnostic nor therapeutic value, and can not be considered as devoid of danger. Wreden has become convinced of the superiority of the faradaic current, and gives it, in a modified form, decided preference over the galvanic current. Since the painfulness of faradization is especially marked in the deeper parts of the ear, he has made many experiments in methods of application in order to obviate this evil, and he now recommends secondary induction. If an induced current of high tension and of little intensity is taken up by a second conductor, whose primary induction-coil is formed of fine wire wound in many layers, while the secondary induction-coil has but a few layers of thick wire, a current will be produced of much lower tension but of greater intensity. This secondary inductor acts in the opposite way from the primary inductor, which serves to change the low-tension current of a galvanic element into one of high tension. To render the application of statical electricity feasible for therapeutic purposes, Wreden substitutes for the usual statical machine a Ruhmkorff coil attached to a Grenet battery, which gives a spark one centimetre in length; this acts either as a primary inductor in faradization or as the producer of sparks for statical electrization of the ear. This modified induced current Wreden applies in two ways: either in a dry form by employing the customary flat and spherical electrodes, or in a wet form by using a fine stream of a warm salt solution, discharged from an electric douche apparatus into the ear, nose, and throat, and which serves to obviate the pain which would otherwise prevent the electrization of the highly sensitive internal ear. The modified induced current, and especially the spark current, act in a remarkable manner as antiphlogistic agents in acute inflammatory and suppurative affections of the ear. From eight to ten sittings are usually necessary. In chronic glandular swellings in the neighborhood of the ear, in chronic periosteal swellings of the auditory canal and mastoid process, and in arthritic deposits in the auricle, Wreden has seen remarkably rapid dissipation of the swelling upon application of the spark current a number of times. In the well-known tedious cases of so-called dry middle-ear catarrh it is possible sometimes to produce marked improvement with the duplex-inductorium.

**Recent Observations on the Formation of Cysts in the Auricle.**—Hartmann (*ibid.*) reports four cases of cysts occurring in well-nourished individuals of middle age, with no tendency to mental disease. In none of the four cases was there any history of preceding injury. The tumors had existed an average of two weeks before incision; their contents always consisted of a perfectly clear, somewhat yellowish fluid; no reddish or black color, no masses of detritus, and no shreds of fibrin were found which might have indicated a previous hæmorrhage. In all cases the cartilage was exposed at the bottom of the cyst. In three cases healing resulted in a few days; in one case it took five weeks on account of the occurrence of suppuration.

**Markedly Protracted Course of Suppurative Otitis Media in Three Cases of Tuberculosis.**—Eitelberg (*ibid.*) reports three cases of this kind occurring in tuberculous individuals, who showed great emaciation, constant coughing, and hectic flush upon the cheeks. Night-sweats occurred in all, and profuse hæmoptysis had repeatedly endangered the life of one of them. After a severe hæmoptysis, the first symptoms of aural disease appeared in one of the patients. At the first examination in all the cases, Eitelberg could only diagnosticate acute catarrhal inflammation of the tympanum. The patients complained of deafness, tinnitus, and obstruction; the membrana tympani was retracted and dull, and the vessels along the handle of the malleus were slightly injected. This simple catarrh of the middle ear was transformed later into a suppurative otitis media, probably by the progress of the tuberculous auto-infection; though it is possible that the process was mildly suppurative from the start. The duration of the prodromal stage varied from two weeks to nearly two months in these cases—a remarkably long period.

**What can the Human Ear hear without the Stapes?**—Berthold (*ibid.*) reports some very interesting observations made upon a patient with this defect. It is the first well-authenticated case in which loss of the stapes was not followed by complete deafness, but in which a tolerable degree of hearing remained; without stapes and with coexisting perforation of the drum-membrane, loud speech was heard near by, and, upon mechanical closure of the perforation, whispered speech was understood at fifteen feet. Berthold thinks that sufficient importance has not as yet been attached to the rôle which the annulus tympanicus plays in the improvement of hearing following the use of an artificial drum-membrane. In the absence of the stapes there can be no question of the possibility of the artificial membrane acting upon loosely articulated ossicles in such a way as to bring them into a position better adapted for sound conduction.

**Malformation of the Auricles; Branchial Fistulæ; Chronic Purulent Inflammation of the Middle Ear; Examination of the Labyrinth.**—Steinbrügge (*ibid.*) gives a detailed report of his examination of the right petrous bone removed from a patient, during whose life the hearing was not tested, and the auditory canals were not examined. The right auricle was small in its vertical diameter and the helix was soft. The fossa triangularis was wanting. The concha was abnormally deep. There was a large round perforation in the middle of the drum-membrane, and through this opening epithelial masses were seen in the tympanic cavity. The roof of the tympanum was abnormally thick; the atrophied head of the malleus was firmly adherent to it. The body of the incus was large and the processes were almost entirely destroyed. The stapes was absent, as was also the tensor tympani. The squamous and petrous bones were very massive, and the mastoid was sclerosed. Sections of the pyramid showed an increase of the bony substance, partial deposits on the walls of the osseous cochlea, semicircular canals, and ampullæ. The remains of the oval window showed on section as a funnel-shaped cavity, ending blind in bone. Between its blind extremity and the vestibule was a layer of bone. The membrane of the round window was thickened, partly ossified, and smaller than normal. The first turn of the cochlea was narrow, the scala tympani angular and filled with detritus. The osseous layer of the promontory was very much thickened. The organ of Corti was destroyed and converted into a granular cell-conglomerate, and in the inner angle of the cochlear canal, between Reissner's membrane and the membrana tectoria, a collection of round cells extended as far as the second turn. The membranous semicircular canals were abnormally small. The Falloppian canal contained only a few scattered nerve-fibers. Hearing on the right side must have been entirely wanting.

**The "Sound-Shadow" a Cause of Error in the Measurement of the Acuity of Hearing.**—Guye ("Revue mens. de laryngol. et d'otologie," Oct. 1, 1888) thinks that in the waves of sound the obstacles are, as a rule, too small to project distinct shadows. As a matter of fact, we perceive the sound-shadow only when it is projected by a large building, a street, etc., while in our house we, as a rule, perceive nothing. The "obscure spot" of Brunschwig may be easily demonstrated, not only in persons who have one ear of normally acute power while the other ear may only hear the watch at ten centimetres, but also in persons who have both ears normal, provided that they are able to hear the watch at a distance of several metres at least on one side. When these patients close the other ear, they generally continue to hear the watch on that side from four to ten centimetres. Here the "obscure spot" begins, and for a distance of fifteen to twenty-five centimetres they hear the watch with the other ear. As a rule, the patient does not know whether he hears the watch with one or the other ear, or with both ears.

**Bacteriological Researches in Acute Otitis Media.**—Netter ("Ann. des mal. de l'oreille et du larynx," October, 1888) draws the following conclusions from his researches: 1. Acute otitis media is not a morbid process caused always by the same parasitic agents. It may be caused by different microbes. The otitis presents different clinical features according to the microbe which has caused it. 2. The four following species of cocci have been found in the exudation of acute otitis media: the *Streptococcus pyogenes*, the pneumococcus of Fränkel, the microbe of Friedländer, and the *Staphylococcus pyogenes*. 3. The otitis caused by streptococcus is the most frequent and the most serious, and is frequently complicated by subcutaneous abscesses, suppuration of the mastoid cells, purulent meningitis, phlebitis of the sinuses, and purulent infection. 4. The otitis of pneumococcus may occur in the course of a pneumonia, or it may be primary, isolated, or appear during the period of convalescence from typhoid fever. It runs a rapid course, and usually ends in a cure, though it may be complicated by a meningitis. 5. The microbe of Friedländer has been seen by Zaufal in a case of acute otitis, and he thinks it is met with generally in the sero-sanguinolent otitis. 6. The *Staphylococcus pyogenes aureus*, *albus*, and *flaveus* have been found in the exudation of acute otitis, but as yet they present no special clinical features. 7. Several species of microbes are found together, such as the *Staphylococcus pyogenes aureus*, streptococcus, and pneumococcus. In these cases the first-mentioned plays a secondary rôle. 8. The bacteriological examination furnishes valuable points for prognosis, according to the variety of microbe present. 9. The possibility of secondary infection makes it advisable to renew the bacteriological examination at short intervals. 10. These investigations should include microscopical examinations, cultures, and inoculations on different animals. 11. All pathogenetic microbes found in otitis may be found in the nasal fossæ, the mouth, and pharynx of healthy subjects. 12. This fact, the frequent bilateral nature of otitis, and the frequent existence of affections of the throat and nose, enable us to assert that, in the great majority of the cases, the pathogenetic agents come from the bucco-pharyngeal cavity, and reach the tympanic cavity through the Eustachian tubes. 13. The same method of invasion explains the production of otitis in general diseases—typhoid fever, measles, diphtheria, scarlatina, recurrent typhus, etc. In these diseases the otitis is not due to the pathogenetic microbe, known or unknown, of these diseases, but is produced by the same agent as is primary acute otitis. These diseases are usually accompanied by pharyngeal lesions. The dryness of the mouth and difficulty of deglutition favor the multiplication of the microbes in the mouth and pharynx. 14. In certain cases the pathogenetic microbe may travel by the blood-vessels or lymphatics, but here the otitis is usually internal. 15. The most usual mode of invasion of the middle ear indicates the importance of watching the mouth and pharynx. Antisepsis must be aimed at, if not absolute, at least as far as these cavities are concerned. 16. The present antiseptic measures employed by physicians and otologists are very necessary and perfectly justifiable.

# Miscellany.

**The New York Academy of Medicine.**—At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 26th inst., Dr. Arpad G. Gerster will read a paper entitled "Removal of a Tubercular Tumor of the Larynx by Laryngo-pharyngotomy, with Remarks about Technique and the Value of the Procedure," with a demonstration of two pertinent cases. The subject will be discussed by Dr. Robert Abbe, Dr. F. H. Bosworth, Dr. O. B. Douglas, Dr. S. O. Vander Poel, and others.

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 28th inst., Dr. W. Gill Wylie will read a paper on "The Surgical Treatment of Retroversion of the Uterus with Adhesions, with a New Method of Shortening the Round Ligaments."

At the next meeting of the Section in Public Health, Hygiene, etc., on Friday evening, March 1st, Dr. W. Edward Forest will read a paper entitled "The Cost of Yellow-fever Epidemics—the Epidemic of 1888 at Decatur, Alabama."

**The Sanitary Condition of the New York Public Schools.**—Dr. R. Van Santvoord, chairman of the Committee on Hygiene of the Medical Society of the County of New York, has addressed a circular to the members of the society asking for facts showing specifically the effects of the present overcrowding and other sanitary defects of the public schools on the health of the pupils.

**The Health of Connecticut.**—According to the State Board of Health's "Monthly Bulletin" for January, the whole number of deaths reported was 892, including 4 from measles, 3 from scarlet fever, 15 from cerebro-spinal fever, 51 from croup and diphtheria, 6 from whooping-cough, 2 from erysipelas, 19 from typhoid fever, 13 from malarial fever, 2 from typho-malarial fever, and 2 from puerperal fever. There were also 112 deaths from consumption, 90 from pneumonia, and 25 from bronchitis.

**The Health of San Francisco.**—According to the Health Department's "Condensed Statement of Mortality" for January, the whole number of deaths was 517, including 1 from cerebro-spinal meningitis, 2 from cholera infantum, 12 from croup and diphtheria, 3 from erysipelas, 6 from typhoid fever, 4 from malarial fever, 1 from typho-malarial fever, 4 from whooping-cough, and 2 from small-pox.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending February 15th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| Philadelphia, Pa. | Feb. 9. | 1,040,245 | 408 | .. | .. | .. | 1 | .. | .. | 18 | 11 | 10 | .. | 5 |
| Brooklyn, N. Y. | Feb. 9. | 814,505 | 315 | .. | .. | .. | .. | .. | .. | 3 | 10 | 28 | 11 | 9 |
| Baltimore, Md. | Feb. 9. | 500,343 | 140 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 1 | 2 |
| St. Louis, Mo. | Feb. 2. | 440,000 | 154 | .. | .. | .. | .. | .. | .. | 1 | 1 | 7 | 4 | .... |
| San Francisco, Cal. | Feb. 1. | 330,000 | 117 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 1 |
| Cincinnati, Ohio. | Feb. 9. | 255,139 | 96 | .. | .. | .. | .. | .. | .. | 1 | 1 | 3 | .. | .... |
| New Orleans, La. | Feb. 2. | 248,000 | 112 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | ... |
| Pittsburgh, Pa. | Feb. 9. | 230,000 | 80 | .. | .. | .. | .. | .. | .. | 2 | .. | 1 | .. | 2 |
| Milwaukee, Wis. | Feb. 9. | 210,000 | 54 | .. | .. | .. | .. | .. | .. | 2 | 3 | .. | .. | 1 |
| Kansas City, Mo. | Feb. 8. | 180,000 | 29 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Newark, N. J. | Feb. 5. | 179,000 | 85 | .. | .. | .. | .. | .. | .. | 2 | 1 | 7 | .. | 1 |
| Providence, R. I. | Feb. 9. | 127,000 | 45 | .. | .. | .. | .. | .. | .. | 2 | .. | 2 | .. | .... |
| Richmond, Va. | Feb. 11. | 100,000 | 39 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .... |
| Denver, Col. | Feb. 8. | 100,000 | 33 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Toledo, Ohio | Feb. 8. | 80,000 | 19 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Camden, N. J. | Jan. 24. | 70,000 | 22 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .... |
| Camden, N. J. | Jan. 31. | 70,000 | 24 | .. | .. | .. | .. | .. | .. | 3 | .. | .. | .. | ... |
| Nashville, Tenn. | Jan. 9. | 65,153 | 27 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Fall River, Mass. | Feb. 9. | 65,000 | 22 | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 3 | .... |
| Charleston, S. C. | Feb. 9. | 60,145 | 37 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Lynn, Mass. | Feb. 2. | 50,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Lynn, Mass. | Feb. 9. | 50,000 | 25 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Manchester, N. H. | Feb. 2. | 42,000 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Erie, Pa. | Feb. 9. | 42,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me. | Feb. 9. | 40,000 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Davenport, Iowa. | Feb. 9. | 33,715 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .... |
| E. Saginaw, Mich. | Feb. 9. | 33,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Burlington, Iowa. | Feb. 9. | 30,166 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Altoona, Pa. | Feb. 2. | 30,000 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Auburn, N. Y. | Feb. 9. | 26,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass. | Feb. 9. | 25,000 | 4 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Newport, R. I. | Feb. 7. | 22,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newton, Mass. | Feb. 9. | 21,553 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Keokuk, Ia. | Feb. 9. | 16,000 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Pensacola, Fla. | Feb. 2. | 15,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

## THERAPEUTICAL NOTES.

**Injections of Balsam of Peru in Localized Tuberculosis.**—Landerer ("Wiener med. Presse"; "Rev. gén. de clinique et de thérap.") has employed this treatment in the following manner: He uses an emulsion of one part of balsam of Peru with one part of gum arabic dissolved in oil of sweet almonds, with the addition of a hundred parts of a 70-to-1,000 solution of chloride of sodium. The mixture is injected into the substance of tuberculous glands, and at the same time a plaster containing balsam of Peru is applied to the surface. Injections into the bladder are used in cases of tuberculosis of that organ. He injects an ethereal solution of the balsam into fistulæ and abscesses. In cases of pulmonary tuberculosis he injects about a cubic centimetre into a vein by means of a fine cannula.

**The Removal of Cerumen and the Prevention of Consequent Furuncles.**—Lowenberg ("Praticien"; "Gaz. hebd. des sci. méd.") thinks that, in view of the liability to the formation of a furuncle after the removal of a plug of cerumen from the ear by simple syringing, the mass should be treated previously for a day or two by instillations of an antiseptic solution made after the following formula:

| | |
|---|---|
| Boric acid | 7 parts; |
| Glycerin,<br>Distilled water, } each | 100 " |

The solution should be warmed and dropped in from a test-tube. It is to be applied twice a day, the liquid being allowed to remain in the ear for fifteen minutes. The patient should be informed that this may increase his deafness for the time being, on account of an augmentation of the plug by imbibition, but it softens the mass and facilitates its expulsion.

**Cotton Impregnated with Biniodide of Mercury.**—The following formula ("Pharm. Ztg."; "Progr. méd.") is given for the preparation of this variety of antiseptic cotton:

| | |
|---|---|
| Biniodide of mercury | 8 parts; |
| Iodide of potassium | 3 " |
| Glycerin | 120 " |
| Distilled water | to 2,400 " |

Absorbent cotton is to be soaked in the solution and then dried.

**Acetic Acid in the Treatment of Chronic Pharyngitis.**—Weil ("Therap. Monat."; "Gaz. hebd. de méd. et de chir.") recommends the application of pure acetic acid to the mucous membrane of the pharynx two or three times a week, and states that by this means he has produced rapid subsidence of the disease in cases of long standing. The burning sensation caused is transitory, but the acid may be diluted if the patient is timid or the sensibility of the pharynx exalted.

**Acetic Acid as a Disinfectant in Midwifery.**—F. Engelmann, of Kreuznach ("Dtsch. Med.-Ztg."), recommends a three-per-cent. solution of acetic acid as a safe and efficient substitute for corrosive-sublimate solutions for intra-uterine injections.

## ANSWERS TO CORRESPONDENTS.

*No. 252.*—1. The law forbids it only when practiced for fee or reward. 2. The dispensatories are not published at regular intervals of ten years, but the pharmacopœia is. The last edition of the "United States Dispensatory" was published in 1888, and that of the "National Dispensatory" in 1886. There is nothing to choose between the two works; both are excellent.

*No. 253.*—1. At Vienna. 2 None that we consider very good.

*No. 254.*—We know of nothing on the subject better than what is to be found in Bartholow's and Brunton's works on materia medica.

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Original Communications.

# ANTISEPTIC NASAL SURGERY.*

By CLARENCE C. RICE, M. D.,

PROFESSOR OF DISEASES OF THE NOSE AND THROAT AT THE POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

The only reason why antiseptic methods have been employed so little in nasal surgery is because surgical operations in the nose have become frequent only within the last few years. It requires a few years for any line of surgery to develop antiseptic methods. In a very short time it is safe to predict that the rhinologist will be as particular in his methods of operating as is the abdominal surgeon of to day. It would seem that either the general surgeon is over-careful in his attempts to secure perfect cleanliness, and in the employment of aseptic and antiseptic solutions, or nasal surgeons, so far as my knowledge extends, have paid far too little attention to this matter of antisepsis in their operative work. Either the germ theory of infection or of putrefactive fermentation of Pasteur, Koch, Lister, and Watson Cheyne —a theory which is firmly believed in by nine tenths of the leading American surgeons to-day—either this germ theory is still unproved or the nasal surgeons have not apparently been particular enough in their methods of operating. There are obvious reasons, however, why we have heard so little of antiseptic methods in nasal surgery; and, first, because nasal surgery is comparatively a new field. When I first thought of preparing a paper on the use of antiseptics in nasal surgery I was so unfamiliar with the surgical methods employed by the members of this association, and their opinion as to the necessity and value of antiseptics in nasal surgery, that I wrote a number of them asking for their views on this subject. Several of the gentlemen said they did but little nasal surgery, because in their opinion, there were but few cases that required surgical interference. A small number employed only the galvano-cautery in removing tissue, and were not favorably disposed toward cutting and drilling operations upon the bony and cartilaginous structure of the nose, so that, aside from the observance of strict cleanliness in treating nasal disease, they had had but little occasion to employ antiseptic solutions. I would like to add in parenthesis here a point which I shall refer to again—that the application of the galvano- (that is, the actual) cautery to open wounds affords one of the most effective means of preventing the absorption of septic material. Gerster † says: "The actual cautery is the most effective sterilizer." It may be true, therefore, that the gentlemen of this association who employ only the galvano-cautery in removing nasal obstructions have little need to use other antiseptic precautions. Strict cleanliness before operations and application of the actual cautery to the wound would perhaps satisfy most antiseptic operators. While it is true, however, that the majority of rhinologists do make use of the saw, drill, knife, and trephine, these instruments have been perfected so short a time that nasal surgery, as we employ the term to-day, is, if not a new field, one which has assumed large proportion only during the last few years.

A second reason for the lack of attention paid to the use of antiseptics in nasal surgery is that the wounds inflicted by operations are very small as compared with those which the general surgeon has to treat; but the advantage the nasal operator possesses in the loss of a smaller extent of surface tissue is fully neutralized by the peculiar conditions and surroundings of nasal wounds, and these conditions furnish the *third* reason why antiseptics have been held at so low a value by nasal surgeons. It is far more difficult to employ antiseptic methods effectively in the nasal cavities than upon the surface of the body or in the joints or in the abdominal or pelvic cavities. Not only is it well-nigh impossible to obtain an aseptic surface in the nasal cavities before operations, as can be done on the surface of the body, by shaving, thoroughly scrubbing with soap and water, and finally sponging with a solution of carbolic acid or bichloride of mercury, but the nasal wound is subjected to all the exact conditions which are deemed most favorable to the generation and propagation of micro-organisms—viz., heat and an abundance of moisture and oxygen.

Watson Cheyne * says: "The ideal result of wound treatment is seen in the repair of subcutaneous injuries." He might have cited nasal wounds as the most unfavorable illustration of wound healing. The decomposing nasal secretions add to the fertility of the soil which is most favorable to the development of pathogenetic microbes. The swelling of the soft tissues within the bony nasal walls prevents effective drainage, one of the safeguards against septic absorption, and the pent-up secretions furnish ample septic material until the absorbents are satisfied. We find, therefore, in nasal wounds caused by operation, both varieties of the "obstacles to repair" which are recognized by writers —the mechanical and the chemical. The mechanical are present in the particles of bone, cartilage, or soft tissue, or in the atoms of dirt which remain in the nasal cavities unless great care is taken to wash them out, while all the usual conditions of nasal wounds favor putrefactive fermentation, which is the basis of the chemical obstacle to healing.

In endeavoring to mention all the difficulties lying in the way of the practice of antiseptic nasal surgery, we must not forget that the peculiar anatomical structure of the nasal tissues and the peculiar physiological function it performs furnish hindrances to the proper treatment of wounds. If an attempt is made to exclude air from an ulceration on the septum by covering it with a protective and sealing the nasal orifice with antiseptic gauze, we have the evil results which are caused by the irritation of these packings in the nostril. The erectile tissues will not bear the contact of a foreign body with impunity and the dressings quickly disturb the vaso-motor reflexes, and the nostrils are flooded with a constant outpouring of serum, which wets the dressings and makes them useless.

In view of these difficulties, this question naturally presents itself: Is there the same necessity for antiseptic methods in the treatment of nasal wounds that there is in the treatment of wounds in other portions of the body? Are we depriving our patients of any degree of safety or comfort by treating nasal wounds as the general surgeons treated all wounds twenty years ago? To make the question still more tangible: Do we see symptoms of septic poisoning follow operations in the nose where no antiseptic precautions are employed? I shall not at this time discuss the point whether there is more surgical work performed in the nose than is requisite or judicious. I believe it is safe to say that the amount of nasal surgery will be larger in the future rather than less, and whether it *should* be performed will always be a fair matter for discussion; but there should be no debatable ground as to *how* it should be performed.

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* Read before the American Laryngological Association at its tenth annual congress.

† Gerster, "Aseptic and Antiseptic Surgery," p. 3.

* Cheyne, "Antiseptic Treatment of Wounds," p. 7.

And just here it may be of interest and of value to our paper to give a brief outline of the history of wound treatment, and to note the various stages which have led up to the present antiseptic methods. The very early idea was that nature unaided could do far more toward the successful repair of wounds than could be accomplished by the meddling of the surgeon. Paracelsus, in the latter part of the fifteenth century, asserted that nature alone could repair wounds, and he deprecated any surgical interference. He, with Paré, believed that air was beneficial to wounds. They had already, however, begun to talk of the miasms in the air, and as early as 1500 had begun to use alcohol and ethereal oils as antiseptic agents. That the air contained infectious qualities was satisfactorily proved at an early date, and an earnest effort was made to exclude air from wounds, and surgical dressings were changed less and less frequently. In 1706 a method of evacuating abscesses without admitting air was discovered, and in 1753 surgeons began using dressings to prevent putrefaction. In 1768 Percival Pott worked on the antiseptic plan by sealing all his wounds. And a further step in the right direction was accomplished by the writings of John Hunter, which appeared some twenty years later, in which he advised that it was best to leave the task of repair to nature alone, and so advocated healing beneath a scab. It was Dupuytren and Dieffenbach who, recognizing the rapid and satisfactory healing of subcutaneous wounds, instituted the so-called "subcutaneous method," which stands as an epoch in the progress of surgical methods. Their work was based on the belief that the air contained organisms which were capable of infecting wounds. It became the general practice to endeavor to convert all open wounds into subcutaneous wounds. In 1856 Bartsher described a new method of treating wounds —the "open method"—and this was held in considerable favor for some years. Bad as it seems now because of the free access of air, it was correct in that it laid particular stress upon effective drainage. Langenbeck's method was also based on antiseptic principles, and he advocated either constant irrigation or immersion of wounds, to keep the surface free from the contamination of micro-organisms.

Lemaire, in 1863, published a valuable paper on the value of carbolic acid as a disinfectant and antiseptic. He was a teacher of the germ theory of disease, and the value he ascribed to carbolic acid was based upon this principle. This brings us to Lister, who first gave the results of his experimental studies in 1863, and began to treat his cases antiseptically in 1865. By 1867 he had elaborated his methods. Catgut ligatures were introduced in 1869, and in 1871 carbolized gauze. With his views of the causes of surgical diseases, and with his detailed method of treating wounds, every one is familiar.

Do patients after operations upon the nasal septum or turbinated tissues exhibit symptoms which may be properly attributed to absorption of septic material? I find that it is almost the universal testimony of those who use the galvano-cautery, the knife, the saw, and the trephine, that constitutional disturbance, more or less marked in character according to the amount of tissue removed or the extent of surface denuded, follows a certain percentage of these operations. These symptoms may be stated as commencing with slight chilly feelings, occasionally with a chill, and followed in twelve or forty-eight hours by a rise of temperature ranging from 99·5° F. in mild cases to 103° in severe ones, headache, pains through the eyes, nose, and forehead, and in the back and limbs. The patient feels generally too ill to engage in any business. Men of nervous temperament remain at home for two days, and women may stay in bed. These patients seem to be extremely nervous and irritable, and they do not thoroughly regain their equilibrium for a week or more. Some of the above symptoms occur in a mild degree after perhaps twenty per cent. of the cutting, sawing, or drilling operations of the nose. Of the severe cases, I have seen but one in my practice, and that was not in any sense grave. I may describe it:

In the spring of 1887 a young man came to me with his left nostril almost entirely stopped with cartilaginous deflection. I remember him as one of the most nervous patients I ever saw. I used the trephine driven by the electric motor. The operation lasted but a few moments, causing slight pain and no shock. Hæmorrhage was not severe, but it was persistent, and I was compelled to do what I then felt to be bad surgical practice, and which I never do at present—place an ordinary cotton tampon against the wound. The patient came to the office the next day. I removed the plug and washed out the nostril with a carbolized solution, but, as the bleeding continued, I put in a second tampon. I saw the patient at his house the next day. The tissues over the left nostril and cheek were swollen and somewhat reddened; the left eye was almost closed—more, however, by œdema of the lids than by inflammatory swelling. The patient had had chilly feelings the night before, and I found his temperature 102·5°. He exhibited the nervous irritability spoken of. I removed the plug and washed the nasal cavities with carbolized solutions. He began to improve the next day and was about in four days. In another case operated on two years ago, after the use of the galvano-cautery on the septum the patient suffered from constitutional symptoms; temperature 101·5°; and on the second day after the operation an erysipelatous blush showed itself on the nose and for a short distance on the cheeks. This lasted only twenty-four hours and the patient quickly recovered.

I have seen a number of cases where the patient felt uncomfortable the second day after an operation on the septum. There is probably some slight rise of temperature in all these cases. It is common enough in dispensary practice to have patients return a few days after a cautery or drilling operation on the nasal septum, and say that they felt quite sick for some time after the operation. It is difficult to keep any record of such constitutional disturbance, as the patient is not seen for some days after the operation. My attention was most forcibly called to the serious results which may follow nasal operations by the uncomfortable experience of a friend of mine, a surgeon of New York.

He was operated on by a physician of experience in nasal work. A cartilaginous and bony convexity was removed by a revolving drill. The work was done skillfully under chloroform. I believe that ordinary care was used in cleansing the nostrils. I examined the nose some weeks later, but did not discover that much tissue had been removed. Tampons were used for styptic purposes. The second day after the operation the nostril was closed by inflammatory swelling. The patient had a chill on the evening of the second day, and for seven days afterward the temperature ranged from 103° to 104° F.; slight chills were frequent, perspiration abundant, albumin in urine. The nose, eyes, and face were considerably swollen. The patient lost flesh so rapidly and was so depressed mentally that fears were entertained at one time that he would not recover. He convalesced slowly and was unfit for work for six weeks. In conversation with me about his case, he criticised in strong language the lack of antiseptic methods employed by some surgeons. He himself, a strong advocate of all antiseptic precautions and most particular in his practice as a general surgeon, styled the old-time methods by the more expressive than elegant term of "rotten surgery." There was no doubt but that he had suffered from a severe attack of blood-poisoning, the "septic intoxication" of Cheyne, the "traumatic infectious" disease of Koch. Absorption of putrid matter had taken place through the denuded cartilage and bone of the nose, and, as a consequence, he had almost lost his life.

I have heard of other serious cases, but have no authentic history of them.

The constitutional symptoms which follow operations in the nasal cavities, even where no antiseptic precautions are resorted to, are neither severe nor long continued. The patient's life is rarely endangered, but his comfort may be seriously interfered with. There are a number of rhinologists who do not perform cutting or drilling operations upon the nose because they fear the constitutional disturbance that follows such operation. As one physician expresses himself in regard to these operations, he "prefers to be on the safe side." Is it not possible to operate freely in any nasal case where good judgment advises, and, by employing strict antiseptic precautions, always be on the safe side? General surgeons do not hesitate to do many operations to-day which they feared to perform ten years ago. This same feeling may get abroad in regard to nasal surgery when it is done as scientifically as abdominal sections.

General symptoms which appear during the first twenty-four hours after a nasal operation may properly be attributed to shock and the reaction after shock. The amount of shock will depend upon the temperament and general health of the patient. Sex seems to have little significance. Shock will be in proportion to the amount of tissue removed, the extent of surface laid bare, the amount of pain inflicted, the quantity of blood lost. The degree of shock is also in direct ratio with the length of time consumed in operating. Shock seems to be greater when the nasal septum is wounded than when the soft tissues are injured, but this perhaps is because knives, saws, and drills are rarely used on soft tissues. All the symptoms which may be fairly attributable to shock following the small operations upon the nose should be over in twenty-four hours. For example, the nasal trephine is used upon the septum, and in a few hours the patient feels generally shaken up—with headache, neuralgic pains about the eyes, nose, ears, and teeth; he feels weak and perhaps faint; reaction declares itself in a slight rise of temperature, not more than 99·5° F., which subsides in twenty-four hours. We should not confound such constitutional disturbance with symptoms which begin later, last longer, and are more pronounced—symptoms which surgical writers formerly grouped under the names of traumatic fever or surgical fever.

The transitory disturbance which is called shock is undoubtedly due to direct and reflex periphero-central nervous causes; but it subsides as soon as the nervous system has had time to recover its equilibrium. But neither shock to the nervous reflexes nor mechanical disturbance to the nasal circulation is considered any longer to be competent to explain the systemic disturbance which was called "surgical fever" by the operators twenty years ago. The pathology and ætiology of this disease rest upon a different and more satisfactory basis to-day than they did then. Thanks to the investigations of Pasteur and Koch and to the surgical procedures elaborated by Lister, traumatic fever is no longer a legitimate disease which follows all surgical operations. The presence of marked constitutional disturbance, chills, and high temperature after the severest operation now rather reflects upon the methods employed by the operator, and the old "laudable" pus, teeming with germs of suppuration, has been proved to act as a foreign body and its presence to be an evidence of wound infection.

The belief that symptoms such as we have described were caused by the action of micro-organisms, and were not, as Billroth * has it, "the general accidental diseases which may accompany wounds," had been suggested at the beginning of this century, but in 1831 Braconnet stated the opinion that micro-organisms produced virulent principles which acted as ferments. In 1836 Donné discovered microscopic organisms in the pus of chancres. In 1848 Fuchs spoke of the presence of bacteria in some of the septic diseases of animals, and Pollender in 1850 discovered bacteria in the blood of cattle dying of charbon.

In 1861 Pasteur began his remarkable demonstrations, proving first that butyric fermentation was effected by an organism, and in the next year that there existed in the air countless organized corpuscles which were the germs of fermentation. In 1863 he stated that putrefaction was determined by ferments of the vibrio species. Pasteur soon stated the belief that putrefaction was the result of fermentation, by reason of which the chemical composition of bodies was changed, complex compounds being reduced to simple ones. This theory of the relation of putrefaction to fermentation was quickly and naturally applied to pathological condi-

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* Billroth's "Surgical Pathology," p. 396.

tions, and the germ origin of splenic fever was soon demonstrated.

Pasteur was first to maintain that septicæmia was of germ origin. Koch has demonstrated, by inoculation in animals, a number of diseases which are similar to those of men, each disease being caused by a specific microbe which, after a number of cultivations, produces the same disease. Pathogenetic microbes have been demonstrated in erysipelas, gonorrhœa, anthrax, empyema, tuberculosis, osteomyelitis, etc. Rosenbach,* of Göttingen, after painstaking experimentation, denies the possibility of the formation of pus by mechanical, physical, or chemical means if microbes are excluded, and Ogston † has also quite clearly shown that all suppurative processes are caused by micro-organisms. Göttstein, ‡ of Berlin, says that the microbes found in pus probably exist in a latent way on the skin in the mouth and nose, and become active only when a wound is produced which gives them access to the blood-tissues, or rather furnish an opportunity for the absorption of the *products* of the micro-organisms—the so-called ptomaines, or the sepsin of Bergmann, or the "putrefactive alkaloids" of other writers—or possibly, as some suggest, the *excrementitious products* of the microbes. Göttstein further says that this absorption continues until an aggregation of leucocytes which precede the advance of the micro-organisms furnish a barrier which prevents their further progress. This dam of leucocytes is the granulation tissue which is present in old ulcerations and which explains why we have no symptoms of blood-poisoning in ulcerous coryza and other long-continued ulcerations of the nose. Göttstein goes the whole distance and asserts that these micro-organisms are the cause of traumatic infective diseases. Rosenbach discovered four varieties of microbes capable of producing "putrid intoxication," one of which was in the white cheesy mass removed from the lacuna of a tonsil. Cheyne # remarks: "The antiseptic method is based on the germ theory of fermentation and putrefaction, and not necessarily of infectious disease." Roswell Park ‖ says: "The lowest forms of vegetable life are the cause of all forms of fermentation, only a certain number of which are putrefactive."

This latter fact granted, antiseptic surgery has given its reason without discussing in detail the origin of surgical diseases.

Antiseptic methods should be used because they exclude bacteria from wounds and so prevent putrefaction. Cheyne, however, brings the matter closer home when he asserts a little later that the evils of septicæmia-pyæmia are almost entirely due to the growth of minute vegetable organisms in the discharge of wounds. Some one has said that "antiseptics should be used to supplement cleanliness." Gerster △ says in his text-book that "modern wound treatment is based entirely on the old and well-known principles of the preservation of organic substances." I can not do better than to quote once more from Cheyne, whose very intelligent writings make the subject of antiseptics a very attractive one. He says: * "When a wound is large and no antiseptics are used, absorption takes place and we have in a few days *traumatic fever;* and that the symptoms of septic intoxication are due to the absorption from the wound is proved in that the symptoms subside when granulation takes place."

Were we ever so indifferent as to the importance of treating nasal wounds antiseptically, we can not ignore the greatly improved results which surgeons have been able to obtain since they have employed antiseptic methods. The largest operations are so scientifically performed in our hospitals today that we have ceased to wonder when we observe that there is less constitutional disturbance after an exsection of the knee, an amputation of the thigh, or an abdominal section, than formerly followed the loss of a finger or toe. It can not be argued that operations in the nasal cavities are subject to any different laws. A most interesting paper was read at the New York Academy last winter which brought out an earnest discussion. The writer advocated external operation for deep urethral stricture on the ground that in performing internal urethrotomy proper drainage was obtained with great difficulty, and that urethral fever, the great bugbear of operators, was due to sepsis and not to nervous causes. The discussion was as to the causation of urethral fever. I believe only one surgeon who discussed the paper indorsed the older theory, that urethral fever was due to reflex nervous causes. In extirpation of the tongue, it is found that there is much less danger of septicæmia where preliminary tracheotomy is done, and it is thus rendered more feasible to employ antiseptic solutions by excluding air from the mouth. Such arguments in favor of antiseptics could be cited indefinitely did this method require any bolstering up.

In concluding my paper I would say that I believe it to be desirable when operating upon the nasal cavities to follow some *routine method* in our attempts to secure an antiseptic or aseptic condition of the nostrils and wound. *The success of all antiseptic methods depends upon methodical and perhaps tedious detail; but let it be believed that of far more importance than the operation itself are the preparations for the operation* and the methodical employment of all means to secure cleanliness, and asepsis will be willingly undertaken. Thoroughly cleansing the nostrils is of major importance, the method of operating of minor importance. It is doubtful whether it will ever be possible to render the nostrils strictly aseptic, so difficult is it to cleanse the upper nasal passages and the accessory sinuses: but the conscientious employment of antiseptic solutions will place nasal surgery on as scientific a basis as general surgery rests upon to-day. The methods which I have endeavored to follow before operating upon the nasal septum are in no sense new, but I state them because, as I have said, it is well to have a detailed routine. Something may be accomplished in the right direction if the patient is instructed to wash out his nostrils twice daily for some days before the operation—a saline or alkaline tepid douche first, to be followed with an antiseptic solution applied with an atomizer. I like a prescription of peroxide of hydrogen containing two per cent. of cocaine hydrochloride in solution. The peroxide of hydrogen cleanses to better advantage after the swellings have been partially effaced by the cocaine. There are many antiseptic solutions. Even a solution of salt and water, generously and carefully used, does more than cleanse—it acts as an antiseptic. A solution of mercuric chloride, however, is considered preferable to all others. In strong solution (1 to 4,000) it can be sprayed into the nostrils both anteriorly and posteriorly; but it is irritating, and if used in considerable quantity there is danger of salivation by absorption through the nasal tissues, or from the small quantity which may be swallowed. As it is necessary to use cleansing solutions in large quantities—one or two quarts—to thoroughly wash the nostrils, a quart of a saline solution may first be used from a fountain syringe and then followed by a small quantity of a solution of bichloride (1 to 4,000), to be used with an atomizer. A better plan still is to employ so weak a solution of bichloride (1 to 10,000) that it can be used in large quantities—a pint. It is best to introduce it posteriorly, so that it will not run down into the pharynx and be swallowed, and also to lessen any chance of causing middle-ear inflammation. I employ a post-nasal irrigating tube which I have had constructed for the purpose. To prevent the solution running backward, a small piece of antiseptic sponge is placed near the tip of the tube, which is held in place by a hard-rubber shoulder. The size of the sponge must be adapted to the size of each posterior nasal orifice. The hole in the sponge is quickly made with a circular punch; a number of these sponges may be prepared in advance and be kept in a carbolized solution (1 to 30). Before operating, the sponges can be squeezed out and placed in a solution of bichloride (1 to 3,000). Before introducing the irrigating tube a four-per-cent. solution of cocaine should be thrown up behind the palate to allay irritability and to open the nostrils. After the 1-to-10,000 solution of bichloride has been passed through the nostrils they should be thoroughly dried with absorbent bichloride-of-mercury cotton. I think it is more convenient to sterilize the small instruments we employ in nasal operations by boiling them in a small dish over a Bunsen burner conveniently placed on the operating-table, the instruments to be removed as they are to be used and replaced in the hot water after use, than to employ the usual 1-to-30 solution of carbolic acid. I need not say that the hands must be thoroughly scrubbed with soap and brush and then placed in a bichloride solution before the operation is commenced and as often afterward as anything is touched which has not been rendered antiseptic. The dental hand-piece which is used with the trephine or drill may be wound with bichloride gauze where it is grasped by the hand.

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* Rosenbach, "Mikroorganismen bei den Wund-Infection."

† Ogston, "Report upon Micro-organisms in Surgical Disease," "Brit. Med. Journal," March 12, 1881.

‡ Göttstein, "Die Verwerthung der Bacteriologie in der klinischen Diagnostik."

# Cheyne, "Antiseptic Surgery," p. 359.

‖ Park, "Antiseptics in Surgery," Wood's "Reference Hand-book," etc., vol. i, pp. 257, 258.

△ Gerster, "Aseptic and Antiseptic Surgery," p. 5.

* Cheyne, "Antiseptic Treatment of Wounds," pp. 15, 16.

In many of the cases where severe constitutional disturbance has followed operations upon the septum we find that the nostrils have been temporarily plugged to prevent hæmorrhage, and these tampons have been allowed to remain twelve to forty-eight hours. This is, I believe, an unsafe practice, even though antiseptic cotton is used. The cases are rare where it is necessary to place the tampon upon the wounded surface. It can be introduced just inside the orifice, and if the patient is instructed to keep the head inclined forward the blood coagulum will be dammed back upon the wound and the bleeding stopped. The patient can remove the tampon in a few hours (four to six), and need not replace it unless the bleeding recommences. I prefer not to introduce any plug, for it is my experience that bleeding will cease of itself in a few moments in the vast majority of cases. The galvano-cautery is so good a sterilizer that it may be applied not only to stop hæmorrhage, but to sear over the denuded surface which has been made by knife or trephine. After the operation I much prefer to have the patient use a solution of peroxide of hydrogen or of boric and salicylic acids for cleansing purposes than to attempt to keep the wound covered with any of the powders, iodoform, boric acid, etc. Nor do I believe that antiseptic tampons can be successfully employed after the operation with a view to excluding the air. They are irritating, they prevent drainage, and soon lose their antiseptic qualities. It is better to keep the nostril free, and to keep it as nearly antiseptic as possible by cleansing and antiseptic washes.

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## VIEWS ON THE PREVENTION AND TREATMENT OF TYPHOID FEVER.*

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During the last three months of the year just passed there were 413 cases of enteric fever reported in the city of New York, including 122 deaths; and in Providence, R. I., there were 329 cases and 70 deaths recorded within the same period.

In recounting these statistics I do not so much seek to point a moral in regard to the percentage of deaths as to draw your attention to the many instances of this fever that have been noted in the short space of three months in two of our large Eastern cities, where the intelligence of the inhabitants is certainly not below the average of such places.

From our knowledge of human nature we are justified in concluding that all the cases that occurred during this period were not reported, while, at the same time, it is reasonable to suppose that most of the fatal results were ultimately put on record. And, if these inferences be true, we can easily see how there would be considerable room for error in calculating the ratio of deaths from such reports. But, on the other hand, it is fair to presume, after due allowance for mistakes in diagnosis, that the actual number of cases was in excess of what appears in the statistics.

Now, this evident persistence of typhoid fever in enlightened communities where it should not prevail, to say nothing of the apparently high rate of mortality, which is possibly somewhat fallacious, has led me to consider the facts in regard to the spread, prevention, and treatment of this affection.

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* Read before the Medical Society of the State of New York, February 5, 1889.

Although the topic that I have selected is certainly of great general interest, yet my treatment of it may seem rather trite to many of you because of a contingent lack of novelty. Still, I hold that a thing is but half known which is not generally acted upon, and if we would learn what men believe we must observe what they do.

Typhoid or enteric fever is a preventable disease and quite a needless affliction to the human race. Nevertheless, each year we are called upon to grapple with this malady, and the idea of its extinction is regarded by many as fanciful instead of reasonably feasible. The fault must lie partly with ourselves and not wholly with the rest of the community. Moreover, it is not so much ignorance that we have to plead as a lack of sufficient will to live up to what we know.

If the germ theory of disease is a correct one, and it would seem to be, we ought to follow the example of the surgeons and endeavor to keep out the bacteria. Our task, to be sure, is a much more difficult one than theirs, for these little enemies of the human race come clothed in the garb of peace, and steal into our citadels by the natural paths. The brain of man, however, nurtured by experience, each day finds itself better able to solve this problem.

Enteric fever is not contagious in the strict sense of the word, but rather infectious, if such a distinction is allowable. That is to say, it is indirectly conveyed by means of excrementitious matter, but not communicated directly from person to person. A rod-shaped vegetable parasite, discoverable only by the microscope, of the genus bacterium and species bacillus, is the disease germ of this malady. From the evacuations of a patient, after a few hours, these germs multiply, spread, and, what is more, retain their virulent activity for a great length of time and under the most varying circumstances. Yet because of a considerable interval between the passing of a stool and its final putrefaction, at which time the poisonous ptomaine is evolved, immediate contact with the patient is rarely if ever a means of infection.

In such a number of instances of careful search by painstaking and trusty observers has an eruption of typhoid fever been traced to a source that plainly owed its infection to a previous outbreak of the same disease, that this deduction regarding its origin has been verified and the sequence of cause and effect established. Unpolluted by man, the earth is free from the germs of enteric fever; but, criminally careless or ignorantly neglectful, he scatters the seeds that generate misery and entail suffering upon his fellows.

So far as contagious and infectious diseases are concerned, the public weal might be fitly compared to the strength of a chain, which is no greater than that of its weakest link. Hence the importance of boards of health, of inspection, and of quarantine, to enforce the law upon the few for the safety of the many. But short of flagrant disobedience to sanitary rules, there are many minor infringements that work no little injury, for, after all known precautions have been observed, one may be subjected to the mercy of a thoughtless or selfish neighbor. Consequently, until it is not only granted, but, furthermore, acted upon, that the welfare of our fellow-men is also our own, unnecessary disease and premature death will be the lot of mankind.

The poison of enteric fever is undoubtedly due to living germs that are voided by the patient, which multiply with great facility under favorable circumstances, and which are preserved, it is believed, for years in a congenial atmosphere. Thus, wherever these germs are scattered they form colonies of great potency for evil. Little fine particles, too small to be seen by the naked eye, they are born by the wind, diffused by gases, or conveyed by means of fluids in various directions. And the victim of their noxious power, predisposed in some way not well understood, takes them into his system through the air he breathes, the fluid he drinks, or the food he eats.

In certain portions of the world the struggle for existence between man and vegetable and animal parasites is so great as to render these regions almost uninhabitable. Indeed, at all times and in all places the price of life is continual watchfulness. And the person who relaxes his vigilance is daily in danger of being carried off by the enemy that lurks among us in microscopic tenuity.

It is pretty well established that the gaseous emanations from sewers, or the water that may be polluted by human excrement, however pernicious, will not produce enteric fever when taken into the system unless they contain the germs or toxic principle peculiar to this malady.

Perhaps of all means of propagating enteric fever our drinking-water is the most common, because the most likely to reach large numbers of persons. Bright, sparkling, and clear, it may still be the vehicle of endless infection. Ice, too, harbors the bacilli characteristic of this affection. These same germs of disease when cast into a public sewer find suitable pabulum for growth and multiplication, whence they spread to the houses by means of the constant diffusion of gases. By the overflow of vaults or the leakage of pipes they saturate the earth and ebb and flow in the tidewater of the subsoil, from which they find their way into adjacent wells and poison the water, or into neighboring cellars and vitiate the atmosphere. Even the milk we drink is liable to pollution from its strong affinity for water in the laboratory of unscrupulous purveyors. Therefore, while the surgeon, armed with antiseptic weapons of defense, stands guard over his wound, we have literally to scour the country in search of the foe.

As a means of stamping out this infectious disease, first of all comes the absolute need of destroying in every instance the excreta, or the germs therein, as they are expelled from the patient. This is not only a moral obligation, but it should be made a legal necessity. Then, when as much attention is given to the plumbing, draining, and ventilation of a home as, in many instances, is bestowed upon decoration, the dreadful scourge ought gradually to disappear.

In the selection of a house in town or country the water-supply and the drainage should be made the objects of the most careful investigation, for these are the two sources most liable to become vehicles of infection. Stationary basins should be excluded from all sleeping-rooms, and the waste-pipes in every case should be exposed to view and not buried in the walls or floors. It would be better if the bath-rooms and closets were in a detached portion of the house. Filtered rain-water is the safest for drinking purposes, and the ice employed to cool it should not come into immediate contact with the fluid. Wherever there is the slightest danger of pollution the only safe means for the prevention of infection is to boil the water. Simple filtration will not destroy disease germs, but, if raised to the boiling point, water is freed from all bacteria, however tenacious of life. In like manner meats and food in general should not be kept in direct contact with ice, nor even in the same compartment. And the outlet of a refrigerator must not communicate with a sewer. All this we know, you say, but do we act upon our knowledge? Do we take pains to see that our patients are as well informed, and that they make proper use of their information? The periodical outbreaks of enteric fever would seem to answer this pertinent question.

Unless these simple precautions are taken in every instance, we have to thank ourselves for the weeks of illness, and perhaps years of sorrow and regret, that we bring upon ourselves by our own negligence.

Finally, after all has been done that our present knowledge enables us to perform in the way of prevention, there may come a lapse of caution, a blind, foolish trust that things will take care of themselves, or some stupid member of the community, far removed from our supervision, may subject us unknown to the poison of enteric fever, and we fall victims to the malady. Hence, in the present state of imperfection in which we exist, we are obliged to consider the treatment of this disease, which, as I have already ventured to claim, ought not to prevail and would not be the scourge it is but for our own improvidence.

It would be hazardous to predict, in view of the apparent revolution in medicine that the germ theory seems destined to bring about, that some material may not be discoved which, introduced into the system, will counteract the poisonous effects of these germs. But at present the indications point to the much more natural, not to say rational, method of exclusion; and, although this involves an amount of care and watchfulness that is often irksome, nevertheless it would appear to be the course that is generally required in life, for without labor nothing is given to man.

I am wholly in accord with those who believe that the pyrexia of typhoid fever is, in a degree, a conservative process.

Fever may be defined as an exaggeration of the normal physiological heat production and heat dissipation, but with the heat-regulating mechanism thrown out of gear. The neurotic hypothesis of pyrexia seems to have been verified by the demonstration that heat production is controlled by the nervous system. Chemical changes that take place in the glands and muscles, which give rise to heat, are directly dependent upon innervation. An injury to certain limited portions of the brain, known as heat centers, will produce fever; and in like manner the injection of pyrogenic substances into the circulation is supposed to have a similar influence upon the central nervous system. Thus the typhoid poison taken into the blood provokes an elevation of temperature by its effect upon the heat areas, unless the central nervous system should be so overwhelmed by the toxic products of the bacilli as to become paralyzed.

When fever is produced it slowly causes oxidation of the foreign substance, but, like many another energy, it is potent for evil as well as good, and must be kept within bounds. On the other hand, without fever the malady may still be a malignant case of typhoid poisoning. Hence pyrexia is not all of enteric fever. It is rather the combination of pyrexia with the poisonous element than the elevation of temperature alone that is harmful; for it has been demonstrated that a gradual rise of bodily heat not septic in origin can progress to a very considerable height without much permanent damage to the tissues. Consequently the question occurs whether too much attention is not being given to the dangers of what is supposed to be hyperpyrexia, and not enough to the other factors of the malady.

This fever is undoubtedly one of the manifestations of Nature's struggle to rid the system of the unwelcome poison, and in the milder cases of infection the human economy proves itself equal to the occasion, yet in many instances the toxæmia is so profound that the patient sinks under its baneful influence. But between these extremes there lie many stricken with this affection whose fate hangs upon threads that may be rudely torn by blundering hands or gently gathered up by the spirit of enlightenment.

We have no specific with which to combat this disease, and the indications for treatment are to supplement Nature in her endeavor to accomplish this end. I do not wish to appear as an advocate of expectancy to the exclusion of all else; nevertheless, it is very desirable to have the moral courage not to produce an unwarrantable disturbance in the system, with the vain hope of hastening a process about which Nature requires her own time. Therefore, I would earnestly testify in favor of the simpler therapeutic measures, and simplicity, after all, is an evidence of the highest evolution of our art. The peculiar intestinal lesions of this malady demand absolute recumbency, even though the general prostration is not sufficient to enforce it. Fresh air in abundance, without draughts, is a prime factor in its management. It is my conviction, however, that, except for the most urgent and dangerous complications, any medicine that disturbs the stomach had better never be administered. Pure milk is the best food. Solid material should not find entrance into the body until the fever has subsided, and, what is more, until the intestinal ulcers have healed, which is further on. This should be impressed upon the attendants and the reasons given, and, furthermore, the warning should be repeated in those dangerous days of convalescence. Predigested milk is the most suitable form in which to feed the patient, but it is important to remember that milk is food and not adequate to quench thirst.

Alcohol is one of our powerful allies in the treatment of almost all diseases upon occasion, yet it may in many instances be withheld with benefit. It is the condition of each individual and not the disease that must determine its employment. The rapidity of the pulse in enteric fever is supposed to be directly due to the pyrexia; still, with low tension, and possibly dicrotism, we are feeling the effects of the typhoid poison. Auscultation of the heart, to learn the quality of the first sound, should be daily practiced, as herein lies our best guide for the use of stimulation. Weakness of the first sound calls for aid.

As an instance of deference to the indications of nature I would cite the employment of opium in cases of intestinal hæmorrhage, which insures absolute quietude of the intestines while coagula have time to form in the bleeding vessels.

The importance of guarding against bed-sores by the early use of a water-mattress is great, for it is easier to prevent these ulcers than to heal them. Moreover, a frequent change of decubitus to avoid hypostatic congestion of the lungs should not be overlooked.

In the choice of means to reduce the temperature of the body a very difficult and delicate problem is presented to the thoughtful observer. I would strongly recommend the medical attendant to weigh well the question whether it is not better to allow the fever considerable latitude than to reduce it at the risk of destroying the patient's inherent power of resisting the chemical poison, which is at the bottom of the whole matter.

If quinine has an antipyretic effect in typhoid fever, it seems to me the amount required to accomplish this end is often harmful.

Antipyrine, while it may reduce the temperature, is productive of so much cardiac weakness that it is a serious problem whether it had better ever be administered in enteric fever.

The application of cold water in the form of a tub-bath, even when carried out with the utmost caution, by the gradual lowering of the temperature of the water, is very liable to induce prostration if not collapse; and the final return, in some instances, of the same or a higher bodily heat would seem to show that, although the surface is cooled, and even more than the surface, heat-dissipation is checked for some time afterward, while heat-production continues undisturbed in the deeper structures. At all events, whether this supposition be true or not, my experience with tubbing in typhoid fever leads me to exercise a great deal of caution in the selection of cases for its employment. But, on the other hand, the milder expedient of sponging with tepid water appears to be almost always followed by an improvement in the general condition of the patient, and never by any of the ill effects that are so prone to succeed a tub-bath.

Before closing I would like to mention the 307 cases of enteric fever of Dr. Cotting, of Boston, spoken of in Flint's "Practice of Medicine," that were treated without drugs of any kind, wherein there was a mortality of but 10 per cent.; and likewise the celebrated exploit of Alonzo Clark, in the treatment of 250 cases of typhus fever, at Bellevue Hospital, with a moderate amount of stimulation, and naught else but food and drink and fresh air in great abundance. They all ended in recovery.

Such facts as these ought always to be remembered when, in the enthusiasm of the moment, we are quick to ascribe some special virtue to our latest therapeutical venture.

Finally, the main points that I would emphasize in this necessarily brief survey of my subject are that, as a race, we are responsible for the existence of enteric fever, that its extinction lies in our own hands, and that in the treatment of the disease we should be ever mindful of our limitations.

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# LACERATED CERVIX UTERI
## AS TREATED AT THE UNIVERSITY HOSPITAL BY PROFESSOR WILLIAM GOODELL.

By LEWIS H. ADLER, Jr., M. D.,
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In Professor Goodell's "Lessons in Gynæcology" mention is made of lacerations of the neck of the womb in the following terms: "The cervix uteri often gives way during labor, far more frequently than it ought—far more frequently, indeed, than it would were nature oftener allowed to take the lead. In these busy days there is, unfortunately, a tendency to urge on labor—more, it is feared, for the sake of the physician than for that of his patient." The truth of this statement, I take it, is undeniable.

Injudicious hurry upon the part of the attending physician is manifested in a number of ways—for instance, the early rupture of the membranes, the resort to instruments before the os uteri is dilatable, the exhibition of ergot, or, finally, the pushing back of the thinned-out cervix over the presenting part. It may be well to state here that, as a matter of course, I do not mean to imply that a laceration seldom, if ever, follows a carefully managed labor, for it often does, as skillful practitioners can testify; but at the same time I wish to emphasize the fact as laid down by Dr. Goodell that, far more frequently than it should, interference upon the part of the obstetrician is the cause of these cases.

When this lesion exists, what are the symptoms? If it should be a rent which, owing to position or extent, heals by immediate union, the only evidence of its possible existence will be that of bleeding, even when the womb is found to be firmly contracted and the perinæum uninjured. This sign is, of course, only presumptive proof of its presence, and not positively diagnostic.

When the tear is a deep one and fails to heal by primary union, the symptoms are on the third or fourth day—as described by Dr. Goodell—pain in the broad ligament which corresponds to the torn side of the cervix. If the rent is a double one, the inflammation, after subsiding upon one side, may take a fresh start on the other. This pain is often ushered in by a chill. The pulse is rapid and the temperature high. Pain may be absent and the inflammatory symptoms latent, yet the convalescence will be slow—unaccountably so unless firm pressure be made in each iliac fossa, when the woman will flinch.

The diagnosis of these cases to be positive must be made *per vaginam.* This is best done by placing the woman on her side and introducing a duck-bill speculum which is held in place by an assistant. Then, with a uterine tenaculum held in each hand, the fore lip of the cervix is first hooked and then the hind lip, by which means, if a rent exists, the two lips can be drawn forward and will come in contact, with a noticeable fissure between them, running across the neck of the womb.

Before alluding to the mode of treatment in cases of lacerated cervix uteri, I would briefly mention a few of the possible results attending a case left to the healing art of nature. First, however, I wish to say that Dr. Goodell does not think that every woman who has a tear of the cervix is doomed to a life of invalidism, nor does he think that surgical interference is always called for.

On the other hand, he is decidedly opposed to such views as were expressed in an article in a recent medical journal, by a prominent physician of this State, condemning the use of the knife in all these cases. This gentleman stated that in a very extensive obstetrical practice he had never yet found it necessary to resort to surgical means, and was decidedly opposed to such treatment. With due respect to his opinion and standing in the profession, it must be stated that many women are annually relieved from endless suffering by the method about to be described, who otherwise would have remained invalids for life.

In reference to the results of a case left to nature, unattended by medical or surgical treatment, one of two things happens: the rent heals or else remains ununited; in either event the process of involution is retarded; the inflammation which naturally ensues keeps the womb congested as well as causes an excessive lochial discharge, and these combined circumstances retard convalescence. If the wound unites, the woman's health will in time be re-established; but should no union occur, she will, as a rule, be more or less subject to a sense of weight in the pelvic regions, of backache, of a constant tired feeling, of loss of sexual desire, of pain during coition or of a show following it. The menses will usually be profuse and the intervals between them shorter. Likewise subinvolution of the womb or hypertrophic elongation of the cervix are apt to be developed as secondary lesions. Sterility is not an uncommon result. Miscarriages often follow it, and not infrequently epithelial cancer occurs. With regard to malignant disease, Dr. Goodell, whose experience in these cases has been very large, says that in the immense majority of cases of cancer of the cervix the trouble starts from a laceration of that portion of the womb.

Now, as to the treatment of these cases, which, for convenience' sake, I shall divide into *palliative* and *operative.*

The palliative measures are best subdivided into *local,* as applied to the womb itself; and *general,* as directed to the patient's physical condition.

Under the head of *general palliative treatment* comes rest, combined with a nutritious but easily digested diet, and supplemented with medicines of a tonic nature. A favorite prescription of Dr. Goodell's is one known in the house as lemonade iron, the formula of which is:

| | | |
|---|---|---|
| ℞ | Strychninæ sulph | gr. ss.; |
| | Tr. ferri chlor | f ʒ iv; |
| | Acid. phosphor. dil | f ʒ vj; |
| | Syr. limonis | q. s. ad f ℥ vj. |

M. Dose, f ʒ ij, t. d.

In nervous cases he is fond of the following:

| | | |
|---|---|---|
| ℞ | Ammonii chloridi | ʒ ij; |
| | Ammonii bromidi | ʒ iv; |
| | Tinct. gentianæ comp., | |
| | Aquæ | āā f ℥ iij. |

M. Dose, f ʒ ij, t. d.

If anæmia is added to the nervous element of the case, a favorite pill, known as pil. sumbuli comp., is called for:

| | | |
|---|---|---|
| ℞ | Ext. sumbuli, | |
| | Ferri sulph. exsic | āā gr. j; |
| | Asafœtidæ | gr. ij; |
| | Acid. arseniosi | gr. $\frac{1}{40}$. |

M. et ft. pil. No. j. Dose, one pill after meals, to be increased to six pills a day.

The *local palliative treatment* consists, first, in thorough cleanliness of the genitals. The vagina should be washed out at least twice daily with weak solutions of bichloride of mercury or of carbolic acid. Permanganate of potassium is also a useful drug. Profuse hæmorrhage immediately after the accident is controlled with ice placed in contact with the cervix. Should it fail, vaginal injections of hot water, of tannin, or of alum may be tried, but none of the preparations of iron, since these interfere with immediate union of the parts.

The rent failing to heal by primary union, the treatment should be directed to relieving the local congestion and to protect as far as possible the exposed raw surface of the womb. This is best done by vaginal injections of water as hot as can be borne, by the puncture of the cysts which are formed from the stoppage up of the enlarged Nabothian glands, by painting the eroded surface about once a week with a saturated tincture of iodine, followed before it dries with a weak solution of silver nitrate, which Dr. Goodell says forms not only a protective but also an alterative crust of silver iodide, or by using a solution of a couple of drachms of iodoform in an ounce of collodion, etc.

On account of the cicatricial tissue which the solid stick of lunar caustic causes, Dr. Goodell objects to its use in this class of cases. *Palliative measures* failing to accomplish a cure, we have left but one resort—operation. By the use of the milder treatment we have prepared the patient for the more serious or *operative procedure,* and it is to this treatment that I now wish to direct attention.

The patient is placed in Sims's posture, which allows the abdomen to sag down, and when the duck-bill speculum is introduced the air rushes in, expanding the vagina.

Before beginning the operation the cervix and surrounding parts are cleansed with a 1-to-2,000 solution of bichloride of mercury. The position of the internal os is now ascertained, so as to locate the site for the new cervical canal. Through this point a piece of strong thread is passed upon a needle, which latter is removed, leaving the cord *in situ* (Fig. 1, A). The ends of this are now tied, and by means of a tenaculum that portion between the two lips of the womb is caught and drawn forward. This doubles the loop into two small ones, each of which steadies one lip of the cervix.

The process of denudation is now begun; first, however, two straight, parallel incisions are made upon each lip, on either side of the thread, about a quarter of an inch apart and not very deep, in order to mark out the mucous membrane which is to remain undenuded to serve as the lining for the future cervical canal; after which, to prevent blood from above obscuring what is being done, Dr. Goodell begins at the lower angle of the fissure and denudes up to the two lower incisions. This is repeated above as far as the two upper cuts, care being taken to remove all of the cicatricial tissues. It is usually necessary to remove a wedge-shaped mass of this tissue at each angle of the wound. Often in this operation small Nabothian glands will be seen filled with a gelatinous material. Whenever it is possible to do so, these should be dissected out.

The next thing is the introduction of the stitches. As those on the lowest side are the most difficult to pass, they are inserted first. The wire used should be as fine as is compatible with safety, No. 31 being Dr. Goodell's favorite size.

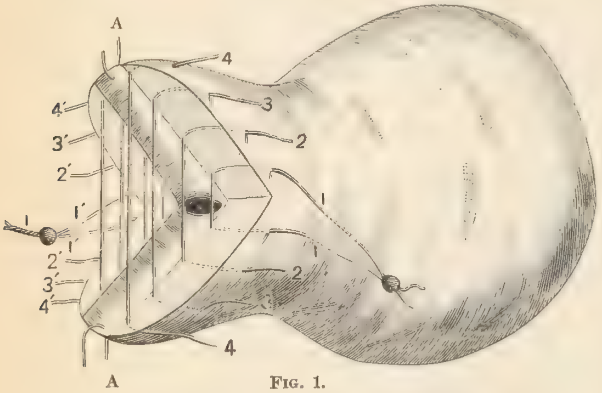

Fig. 1.

The sutures being all passed (as shown in Fig. 1), the next thing to do is to secure them. Before doing this the wound is syringed with some antiseptic solution so as to be rid of all clots and foreign matter that may be present. The shot is then slipped down over a suture and clamped. The same procedure of syringing and of shotting is repeated in placing the remaining sutures. When all are done in this manner, the womb presents the appearance as depicted in Fig. 2. Mention should be made of the fact that, to facilitate the removal of the stitches, Professor Goodell leaves the upper suture on each side several inches longer than the rest, which are cut on a level with the shot. These long sutures have an additional shot clamped over their ends, to prevent injury to the mucous membrane of the vagina. When the time arrives for the removal of the sutures, all that is necessary is to introduce Dr. Goodell's bivalve speculum, and, by means of traction on these two long wires, the cervix is readily brought well into view. The stitches are then easily removed, first on one side and then on the other. The operation is completed by again syringing out the vagina with a bichloride solution, sprinkling the cervix with iodoform, and packing the vagina loosely with gauze containing the same drug.

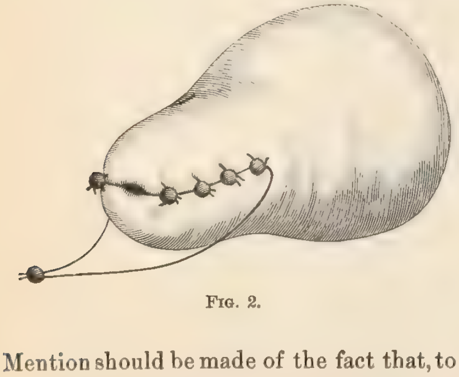

Fig. 2.

In the majority of these cases the surfaces of the wound are so closely and accurately adjusted that not a drop of blood is flowing at the time of the completion of the operation. Sometimes, however, Dr. Goodell has seen a secondary hæmorrhage result. The means previously recommended to stop an excessive flow immediately after the tear has occurred will usually suffice here. Should these fail and superficial stitches not check it, tamponing must be tried as a last resort. The cervix is gently pulled down by means of the two long sutures, and the vagina is packed with three sponges—one on each side of the cervix to compress the surfaces of the wound together, and the third sponge in front of the cervix to keep the others in place. Should this tampon not succeed in checking the hæmorrhage, a suture should be passed deeply behind the bleeding point.

The subsequent treatment of the patient consists in keeping her in bed for at least two weeks. The urine ordinarily should be drawn for forty-eight hours. After the second day the iodoform gauze is removed and the vagina washed out twice daily with a weak antiseptic solution; on the fourth day the bowels are opened, and on the tenth the stitches are removed.

That this operation is successful is shown by the experience of Dr. Goodell in a large number of consecutive cases, mounting up in the hundreds, without a single failure.

A point of importance that should be remembered is to count the number of stitches inserted before the patient leaves the room, for they often become buried, together with the shot, so as not to be readily seen. In illustration of this fact, Dr. Goodell cites a case of a patient of his in the country, upon whom he performed this operation many years ago. In the course of a month or so she came to his office and said that coition was very painful to the husband, who thought there was something in the vagina which ought not to be there. He says an examination revealed, much to his mortification, an overlooked wire suture with sharp points. It had interfered with the marital relation, but it had given the woman no pain or inconvenience.

The proper time for the performance of this operation is about a week after the menstrual flux. If it is performed earlier or later than this, it will be likely either to renew the last period, or to bring on prematurely the next one. Dr. Goodell says, however, that the appearance of the menses while the stitches are in has never in his hands interfered with union.

In conclusion, I wish to express my obligation and thanks to Dr. Herman H. Birney for the figures with which this article is illustrated.

41 North Twelfth Street.

# THE QUESTION OF INTERFERING WITH THE ABSCESSES OF HIP DISEASE.*

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(Two cases of hip disease were shown in which abscesses had been absorbed. In one patient, a girl five years of age, the disappearance of a fluctuating tumor of long standing was followed by a dimple in front of and below the great trochanter caused by the contraction of the fascial tissue lying between the integument and the bone. At one time the redness of the skin and the proximity of the pus to the surface led to the belief that the abscess was about to open, but these indications were of short duration. The depression and limited mobility, the latter revealed by palpation and active and passive motion, of a small area was exactly what is found in a scar depressed and attached to fascia, such a scar as follows a discharging sinus, except that the depression was covered by normal skin instead of cicatricial integument. The patient was convalescent, still wearing the hip-crutch without traction, and had been free from symptoms for more than a year. The other patient, a girl eight years of age, came under treatment when three years old. There were nocturnal pain and the usual signs of hip disease. One year later a fluctuating tumor appeared below and in front of the great trochanter, and persisted for a year, the fluctuation extending two inches and a half in a line parallel with the axis of the shaft of the femur. From the beginning the thigh had been enlarged by infiltration of the cellular tissue. About the time the fluctuation appeared the pain ceased and the thigh lessened in circumference, and eight months after its appearance the thighs were equal. Four months later, when it had disappeared, leaving no trace, the thigh was three fourths of an inch smaller than that of the sound side. It is now an inch and a fourth smaller. The coincidence of the cessation of pain and reduction of swelling with the appearance of the fluctuating tumor is explained by the supposition that the pain and inflammation attended the confinement of the pus and ceased when it escaped into the cellular structures. The patient had been free from symptoms for the past three years and a half. Treatment was suspended last spring. These were typical cases of hip disease and exhibited to a moderate degree the asymmetry and disability which generally attend recovery.)

These cases are instructive. They are examples of the favorable result which sometimes follows breaking the time-honored rule that abscesses call for the use of the knife. They may be considered as an offset to two cases which were shown to the Section last May* as examples of the good results of antiseptic incision and scraping.

I regret that I was not present when those cases were shown, because a paper† in which I had presented the advantages of non-interference with the abscesses in question was made the subject of adverse criticism. One of the speakers on that occasion, my good friend Dr. Sayre, referred to my views in terms which may have been useful as lending animation to the debate of the evening, but which are of doubtful utility in a scientific discussion. I refer especially to the following words: "It was a disgrace to the orthopædic surgery of America to allow such statements to go abroad uncontradicted." Eloquent invective, such as this, has legitimate and praiseworthy applications in some fields of human effort, but it is quite devoid of meaning in a meeting of medical men gathered to consider questions of theory and practice.

The views which I expressed in 1885 were the result of a number of years of experience and studious observation of cases in dispensary and private practice, and they have been but confirmed by the added experience of the past four years. Such cases as those which I have shown this evening are illustrations of the advantages which sometimes attend withholding the knife. Although, as a rule, the fluctuating tumors of hip disease are followed by purulent eruption, I have seen a number of cases of hip disease and Pott's disease of the spine in which abscesses have disappeared with most favorable results. Observations of this kind are by no means rare in orthopædic practice, as many of us well know. It may be supposed that the water which makes up the bulk of these gatherings is absorbed without difficulty while the residuum coalesces with the cellular tissue, leaving in some cases, like one of those shown to-night, subcutaneous bands of cicatricial tissue, which derange the orderly relations of the normal connective structures. It is not clear why some abscesses are thus absorbed while others approach the surface, perforate the skin, and are evacuated, any more than it is clear why some cases of joint disease are attended with while others are free from abscesses. It is not improbable that many cases which are said to be free from abscesses have collections of pus limited in quantity and deep in situation which remain quiet and finally disappear without impeding the progress of the case toward recovery. We may, perhaps, look for the reason of this diversity in the individual diathesis rather than in the local peculiarities or accidents of a given case.

Very few, however, of the abscesses of hip disease will thus conveniently disappear, and the question of what to do with them is one of every-day orthopædic practice, and very properly a question for consideration by the members of this section. Although each case as it occurs must be judged by itself, it will be well to recall a few considerations applicable to all cases of the kind. It will, for instance, be generally admitted that in a purulent case of hip disease the abscesses and sinuses are secondary in importance to the condition of the diseased bone from which they spring.

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* Read before the Orthopædic Section of the New York Academy of Medicine, January 18, 1889.

* "New York Medical Journal," June 16, 1888, pp. 664, 665.

† *Ibid.*, January 31, 1885, pp. 116–120.

They can hardly be considered as adding to the gravity of the case, because destruction of the soft tissues is less serious from every point of view than destruction of the osseous tissue. It is difficult also to see how a purulent sinus can prolong the duration of a case, because its natural tendency is toward cicatrization, an event which is delayed only by the obstinacy of the bone disease. It is also very doubtful, in my opinion, whether abscesses and sinuses hold the relation of cause and effect to visceral degeneration. In the cases of visceral complication which I have seen I have had no reason to question that the disease of the abdominal and thoracic organs has been an expression of a morbid constitution of which the pernicious course of the joint disease is but another expression. Neither will it do to say that the presence of pus forbids the repair of carious bone when cases occur in which recovery is accompanied by the disappearance of abscesses by absorption, and many others in which recovery from the local affection and the restoration of the patient to perfect health are marked by the opening, discharge, and cicatrization of one or more abscesses.

To the general surgeon or to the beginner in orthopædic practice it is difficult to refrain from operating on the abscesses that appear in the progress of a case of hip disease. The traditions of surgery and the expectation of the friends of the patient suggest radical measures and prompt action. There is, however, a notable class of cases in which it is comparatively easy to postpone interference. I refer to those cases in which a single accumulation of pus takes place with a large fluctuating tumor and without pain. The general health of the patient in such cases continues good and he pursues, with the help of the hip splint, the ordinary mode of life. There is an entire absence of symptoms connected with the tumor. There is no urgent call, local or general, for interference. The size of the tumor, which is sometimes enormous, and the thinness of its walls, and nothing else, suggest the use of the bistoury and the evacuation of the fluid. The result in such cases of practicing the purest expectation so far as the abscess is concerned is that the integument becomes gradually exceedingly thin at one point and at length ruptures with collapse of the tumor and a slight purulent discharge for a longer or shorter time, with finally an unimportant scar more or less deeply attached to the fascia and perhaps, also, to the bone beneath. As a rule, the sac opens unexpectedly while the child is at play. In two of my cases the opening occurred during sleep, and the child supposed in the morning that he had wet the bed. The entire history of such an abscess after the fluctuating tumor is recognized is free from pain. It does not impair the patient's health in the slightest degree, and it has no appreciable bad effect on the progress of the bone disease toward recovery or on the condition in which recovery leaves the patient. There is nothing to suggest operative interference except adherence to the old rule.

There are, however, cases in which abscesses follow a widely different course. Instead of a painless we have a painful tumor, hot and red. The limb may be greatly swollen, but by an infiltration rather than a collection of fluid. The skin is tense and brawny. The patient is kept awake by pain, has no appetite, and wastes away. He keeps his bed, insisting on the maintenance of traction. After a while the tumor points and opens with diminution of pain and improvement for a time in the general condition. But pus gathers again and opens at another point with a repetition of the pain and prostration, and this occurs again and again, until there may be a number of sinuses on all sides of the thigh and hip. It is difficult to conceive of a surgical case more sure to give the medical attendant anxiety and more suggestive of the necessity of resorting to heroic measures. It is not strange that a similar condition in the knee made amputation a few years ago, and later excision, the routine treatment. I have treated, as doubtless others of us have, a number of such cases, both in the hip and the knee, as well as in the ankle, without interfering with the natural course of the abscesses, but with unremitting attention to the mechanical and hygienic requirements of the case, and have had no reason to regret the result, except so far as I have thus put myself out of harmony with prevailing surgical opinion—I mean the opinion prevailing among general surgeons—which still commends rapid and strenuous procedures in these cases. I have no desire to willfully oppose accepted views, but am impelled by the favorable results of experience to state that my practice in these difficult cases is: (1) to give the bone and joint the most absolute mechanical rest possible; (2) to insist on the most liberal and varied diet, of which, as a rule, milk in unlimited quantities is the staple; and (3) to permit the use of opium, which, if used, is to be given in potent doses.

I should not omit to give my reasons for failing to see the importance of incision, scraping, and antiseptic closure of the abscesses in question. Incision is a tardy and fruitless procedure. The most painful stage in the history of the abscess is long past. It was present when the pus was collecting under the periosteum and in the cells of bone. If we could interfere early with the bistoury and knew where to direct its point, we might relieve the pain, and perhaps, in favorable circumstances, shorten the case and save bony tissue by dividing the thickened periosteum or breaking the shell of compact bone. But when the pus is in the cellular structures or the cavity of the joint, I do not see that the progress of the case can be materially affected by interference. If the abscess is cold, there is no painful tension to be relieved. If it is phlegmonous, tension is the result of inflammatory infiltration and can be relieved only by extensive and multiple incisions. If we operate in either case we substitute artificial for natural closure, and with the best antisepsis we gain nothing by operating unless we reach and scrape out the purulent depot or the interior of the joint, and then nothing unless we remove the eroded cartilage and exfoliating bone and excavate the focus, and then nothing in many cases unless we remove large quantities of bone or excise the joint. And if we operate in the manner described we do not avoid the necessity of bringing to bear the best mechanical treatment and hygienic control, which, if they are supplied, will bring about a recovery, whether we operate or not, by the slow but sure process of natural repair, with the better result the less we interfere with the soft parts, as a general rule.

I would not be understood to assign no value to the use of the knife in exceptional cases, but simply to hold the opinion that in the management of the majority of the abscesses of hip disease operative interference is useless.

It is not agreeable to make distinctions and to divide one's fellow-practitioners into classes, but, as was pointed out by Dr. Ketch in the discussion of last May, above referred to, it does not take much observation of the way in which the abscesses of hip disease are treated at the present time to see that the general surgeon, whose reliance is chiefly on operative procedures, resorts to the knife with the hope of promoting a rapid recovery, while the orthopædic surgeon, whose reliance is chiefly on mechanical means, seeing that the case, no matter how treated, will be long and tedious, devotes himself to the proper management of the bone disease, and thinks but lightly of the incidental abscesses.

THE MADISON, 4 EAST TWENTY-FIFTH STREET.

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# EXPERIMENTAL DEMONSTRATION OF THE TOXICITY OF THE "LOCO-WEED"

## (ASTRAGALUS MOLLISSIMUS AND OXYTROPIS LAMBERTI).

BY MARY GAGE DAY, M. D.,
WICHITA, KANSAS.

DURING the last year and a half careful experiments have been made upon healthy cats to test the toxic qualities of "loco-weed." After trying several methods and preparations, a decoction of roots, leaves, and stems of plants gathered in September was finally settled upon and used in the following experiments:

Sixty to seventy cubic centimetres of the decoction were given daily to a half-grown, vigorous kitten. Plenty of milk and other food was also supplied. Symptoms of disturbance began to appear within two days, and in the following order: The kitten became less active, the coat grew rough, appetite for ordinary food diminished and fondness for the "loco" increased, diarrhœa came on, and retching and vomiting occasionally occurred. The expression became peculiar and characteristic. Emaciation and the above symptoms progressively increased until the eighteenth day, when periods of convulsive excitement supervened. At times the convulsions were tetanic in character; frothing at the mouth and throwing the head backward as in opisthotonus were marked. At other times the kitten would stand on its hind legs and strike the air with its fore paws, then fall backward and throw itself from side to side. These periods of excitement were followed by perfect quiet, the only apparent sign of life being the respiratory movements. After a short interval of quiet the convulsive movements would recur. These alternate periods of excitement and quiet lasted thirty-six hours, when the posterior extremities became paralyzed, and the kitten died about two hours afterward. There was no apparent loss of consciousness before death.

The post-mortem examination revealed the presence of ulcers in the stomach and duodenum. Some of the ulcers had nearly perforated the wall of the stomach and duodenum. The heart was in diastole; brain and myel appeared normal. As might be expected from the emaciated condition, the entire body was anæmic.

In a second case, sixty to seventy cubic centimetres of a more concentrated decoction were fed daily, with other food as before, to a vigorous adult cat. The symptoms of inactivity, loss of appetite, rough coat, diarrhœa, and the peculiar expression of countenance were as in the first case. By the twelfth day the cat was wasted almost to a skeleton, and was correspondingly weak. Paralysis of the hind limbs came on, and the cat died on the thirteenth day. There were no periods of excitement in this case. Perhaps it was due to the amount of the poison given.

As a test experiment, two strong young cats were confined in the same place, fed from the same dish, and treated in every way the same, except that to one was fed daily a decoction of the "loco." The one fed "loco" acquired the "loco disease" with the characteristic symptoms described above, while the other, eating ordinary food only, remained healthy.

Some experiments were also made at the Michigan Laboratory of Hygiene, under the direction of Dr. Victor C. Vaughan. Subcutaneous injections of the concentrated decoction caused nervous twitchings in frogs and kittens, and, if large amounts were used, death followed in from one to two hours from paralysis of the heart. The same symptoms were produced in frogs by the injection of an alcoholic extract of the residue left after the evaporation to dryness of the decoction.

The loss of appetite, acquired liking for the "loco-weed," rough coat, emaciation, peculiar expression, rearing, plunging, and a staggering, uncertain gait are among the symptoms given in the earliest published observations on the "loco disease" ("Report of the Department of Agriculture," 1874, p. 169), and agree with the statements universally made by ranchmen. An ulcerated condition of the intestines was also pointed out by Professor Sayre in a "locoed" cow upon which he made an autopsy ("Dodge City Times," July, 1887); but the diarrhœa, which was so marked a symptom in the cats experimented upon, is not mentioned as a characteristic symptom in horses and cattle.

From the close agreement of the symptoms in the cats with those universally recognized in "locoed" horses and cattle, I conclude that the cases described above were genuine cases of the "loco disease," and are, so far as can be ascertained, the first that were ever experimentally produced.*

As stated in describing the experiments on the cats, a craving for the "loco" decoction is soon acquired. The kittens would beg for it as an ordinary kitten does for milk, and when supplied would lie down contented. To determine whether a herbivorous animal would easily acquire the "loco habit," a young "jack" rabbit (an animal indigenous to Kansas) was captured and fed a few days on milk and grass; then fresh loco was substituted for the grass.

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* The results of experiments detailed by others are mostly negative. Dr. Carhart, of Lampasas, Texas, drank some decoction of loco without injury, and says that when given to a "locoed" pony it had a beneficial effect ("N. Y. Med. Record," January, 1887). Dr. Kennedy, also of Texas, fed decoction of "loco" to a dog without ill effects ("St. Louis Med. Surg. Jour.," July, 1888). The disparity of these statements and my own are probably due to the small amount given or to lack of persistence.

At first the "loco" was refused, but after two or three days the "loco" was eaten with as much relish as the grass had been. After ten days of the milk and "loco" diet the rabbit was found dead, with the head thrown back and the stomach ruptured.

With reference to the character of the plants at different seasons of the year, I am convinced, by numerous experiments on material gathered in different months, that the greatest amount of poison is present in the autumn and winter, after the seeds have ripened; and that the explanation of the ranchmen that the "loco" disease is more prevalent in the autumn and winter because the animals eat more of the weed from the scarcity of other food, is only a partial explanation. The greater toxicity of the plants at that season I believe to be a very important element.

In conclusion, it seems justifiable, from the facts and experiments detailed above, to draw the following conclusions:

1. There is some poison in "loco-weed" which may cause the illness and, if sufficient quantity is taken, the death of an animal.

2. This poison is contained in the decoction obtained from the plants, and by systematically feeding it to healthy cats cases of "loco" disease may be produced.

3. Taste for the green "loco-weed" may be experimentally produced in the "jack" rabbit.

4. From the large quantity of the plant or the decoction required to produce the disease, the poison must be weak, or, if strong, it must be in very small amount.

## CLINICAL NOTES ON SULPHONAL.

By S. GROVER BURNETT, M. D.,
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Literature on sulphonal principally advocates its indiscriminate use without fear of evil results, which seems erroneous in a few instances.

Having suffered from insomnia due to worry and undue taxation, I first used it on myself, with the following results: Took thirty grains, and in thirty minutes experienced a perfect desire for repose, being succeeded in a few minutes by wakefulness, but I fell asleep in an hour and slept for eleven hours. I awoke with dizziness, which passed away on rising, but suffered from muscular weakness to the extent that I walked with difficulty. Volition was unaffected, but my co-ordinating powers were defective, which lasted pretty much all day. The second dose was twenty grains; good sleep with the above-named symptoms in less degree.* Third dose, fifteen grains; refreshing sleep, but I experienced slight muscular weakness on exertion.

I then gave it a thorough trial in sixteen cases of the insomnia of mental diseases ranging from a slight psychosis to that with violence and destructiveness, with good results in seventy-five per cent. of the number experimented on, which included chronic mania, periodical or recurrent mania, maniacal phases of paresis, and delusional insanity.

In all the cases of melancholia and one case of epileptic insanity the results were less flattering. In melancholia the dose had to be repeated during the night, and then obtained only from two to four hours' sleep. To a patient* with melancholia with great mental disturbance was given a dose of thirty grains at bed-time; the patient did not sleep, and the dose was repeated at 2 A. M. Patient then slept till 1 P. M. On waking, refused food and complained of nausea. Became restless at bed-time and the dose was repeated; slept all night, and was aroused with difficulty at 9 A. M. Was cyanotic, pulse 60, weak and compressible, respiration 16 and laborious, temperature 98° F. Remained cyanotic and semi-comatose for twelve hours, taking no food. On the following day the temperature was normal, respiration 20, pulse 80, taken in same attitude. Patient is fifty-nine years old, suffers from arteriosclerosis with compensatory cardiac hypertrophy, to which condition I attribute the severity of the symptoms, and quite agree with Dr. Schmey,† notwithstanding Dr. Müller's ‡ contradiction of the same.

I am convinced that the patient would not have survived another dose within twenty-four hours. After the last dose was given she remained demented for five or six days, and muscular inco-ordination was so marked that she walked with great difficulty. Was this of central origin? Locomotion had never been defective before or since. To a lady,# forty-two years old, suffering from insomnia due to worry and that condition of the system at the approach of the menopause, were given thirty grains of sulphonal at bed-time for a week. It produced good sleep, but was invariably followed each morning by anorexia, slight headache, and, on the fifth day, muscular inco-ordination. These symptoms gradually increased, becoming so severe on the seventh day that the medicine had to be discontinued. When she attempted to walk on the seventh day she fell to the floor; said she was conscious that she was going to fall, but was unable to help herself.

In three cases it produced extreme thirst, dry and parched condition of the mucous membrane of the mouth, partial suppression of the salivary secretions, anorexia, and, in two cases, pronounced emesis.

*Summary.*—Sulphonal is a reliable hypnotic in the various psychoses void of depressive states—mania, the maniacal stage of paresis,‖ delusional insanity, etc. Less favorable in melancholia with pronounced depression. Is contra-indicated in arteriosclerosis concomitant to a psychosis.

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* The dose was repeated each successive evening, the effect of previous dose having not entirely passed off.

* This was an exception, where the patient slept long after repeating the dose.

† "Therapeutische Monatshefte," July, 1888.

‡ Same journal for August, 1888.

# This patient was not insane; neither would twenty grains produce sleep in her case.

‖ I have been unable to discover any change in the locomotion of paretics due to sulphonal during the time that I have used it.

Is seemingly accumulative, producing more profound effect after the third dose, six to twenty-four hours apart, and in a small number of cases disorders the digestive secretions, causing emesis, thirst, anorexia, etc. Are the latter symptoms of central origin?

Since writing the foregoing my attention has been called to an article by Dr. Bornemann[*] regarding the effect of sulphonal on the co-ordinating powers. I have also used it in a number of other cases in which I saw no contra-indications and obtained good results. In fact, I think it superior as a hypnotic to any I have used when given with the same care.

## Correspondence.

### LETTER FROM PARIS.

*The Presence of Klebs's Bacillus in Diphtheria.—Ventro-fixation of the Uterus.—The Danger of using Pessaries.—The Microbe as a Factor in Disease.*

Paris, *January 23, 1889.*

Dr. Jules Simon defined diphtheria as an affection of a pseudo-membranous order that invaded by preference the superior respiratory passages. Its false membranes always contained Klebs's bacillus. Assuming that this was a correct definition of the term, we could now say that all membranes in which this variety of micro-organism was present were diphtheritic. According to the investigations of MM. Roux and Versin, not only were Klebs's bacilli found in true diphtheritic membranes, but inoculations of cultivations would produce a disease which was unquestionably diphtheritic. A point brought out clearly by these investigators was that the cultivations had not produced any local lesion when applied upon a healthy mucous membrane, but that when applied upon a mucous membrane that had been excoriated and had lost its epithelium, diphtheria had followed. This would seem to explain satisfactorily the fact that this disease so often followed measles, scarlatina, and other affections in which the mucous membranes had been more or less altered. The experimental disease produced in M. Pasteur's laboratory from the membrane of diphtheria seemed to be as severe when the membrane had been taken from a mild case of the disease as when it had been obtained from a very violent one. The bacillus was always the same, and the intensity of the disease produced by it appeared to depend upon the resisting power of the subject into which it had been introduced. Clinical experience had long taught this fact, but no rational explanation had been possible until the experiments had been made.

The question of ventro-fixation of the uterus, or hysteropexia, has been a subject of discussion by the *Société de chirurgie* for some little time. M. Ferrier introduced three cases. He asserted that he had been the first French surgeon to fix the anterior surface of the uterus to the abdominal parietes. He admitted, however, that Dr. T. Gaillard Thomas had told him that he advised the operation and had performed it several times. Professor Trélat stated that in his experience he had found that in retroflexions the indications for operations differed according to the case. In several of his cases where the immobility of the uterus had not been great, its mobilization and fixation had been easy and Alexander's operation had been performed with good results; but where the fixation had been great, and the reduction difficult, this operation had failed. In such cases he would not now advise an operation so long as there was no pain, but when there was considerable pain, even though there might be extensive adhesions in the rectal or sacral region, he would perform hysteropexia. Dr. Després next spoke. He said that he would like to know what was going to become of the bladder all this time. After these operations it should be compressed. Over fifty years ago Aran, Récamier, and others had shown that certain affections of the uterus were painful because the organ was inflamed. Modern surgeons found this to be true after they made an opening into the abdomen. In cases of simple retroflexion it was absurd to perform such operations as Alexander's and hysteropexia. He was opposed to them. In their stead he preferred to use the perineal belt for the reduction of the organ. That laparotomy should be performed for tumors and cysts was right, but to do it for uterine deviations did not seem to him to be wise or true surgery. Dr. Després is a surgeon to the Charity Hospital and is almost the last of any prominence who refuses to practice Listerism. His wards are a sight to horrify modern surgeons, and yet his success is equal to that of any of his colleagues. He opens all abscesses, etc., with the same knife, which he cleanses by simply wiping it on his apron as he passes from one patient to another. He has often been seen to open a swelling, wipe away the pus, and apply nothing but a linseed poultice. He uses the same piece of lunar caustic upon a fistula of the anus in a man and a sinus in the face of a young girl. During his clinics and lectures he indulges in caustic remarks upon clean surgeons and upon local politics.

The question of pessaries having come up, nearly all present agreed with Professor Trélat, who said that they were not only useless, but dangerous. They might be replaced by any solid body, yet the result would be the same. They were apt to cause complications.

The prevailing opinion now seems to be that the microbe is not the all-important factor in disease, but that the substances elaborated by it do the harm. It is certain that in some cultivations the bodies evolved cause a cessation of the growth of the microbe, and this fact is now taken as a starting point for a new theory of inoculation against disease. Professor Bouchard has said in his lectures that there ought to be a careful separation of the soluble matters secreted by the micro-organism from the toxic substances which might exist in connection with them. The former only were suitable for inoculation. It is possible, he thought, that they might come into use for internal medication to arrest the progress of a disease which had already begun, rather than for inoculation. Thus it might be that the substances that arrest the development of micro-organisms in cultivations could be used to combat their growth in the body, and thus to put an end to the disease the micro-organism had caused. Professor Peter said that he never had believed that the microbes themselves did any harm, but that their presence gave rise to the formation of poisonous alkaloids. Professor Bouchard was of the opinion that inoculated matter was not retained within the tissues to act as certain substances did which were put into cultivation to prevent the growth of micro-organisms, but that it modified cell-nutrition to such an extent that the cells became permanently, or at least for a long period, incapable of being again affected by the substance which had modified them originally. The inoculations practiced by him of the urine of animals suffering from various diseases had appeared to confer immunity from the disease affecting the animal from which the urine had been taken. This would seem to indicate that a modification of the virus, similar to the attenuation produced artificially, as in the case of anthrax, had occurred spontaneously in the system.

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[*] "Deutsche Medizinal-Zeitung."

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## THE PROPER MANAGEMENT OF CANCER.

IN the palmy days when the study of carcinoma and other morbid growths was pursued by unimaginative and plodding microscopists and clinical observers alone—in that shadowy age when the Archimedean lever was still forlorn of its sought-for fulcrum and a properly located power, and its analogue of to-day, the great engine of the press, was content with simply feeling the pulses of the world without further procedure of diagnosis and treatment—we were all satisfied that cancer was but an "atypical epithelial neoplasm," and thought none the less of it because of its poverty in the matter of intercellular substance. But, since the every-day journalist has turned the light of his intellect upon the matter, we begin to suspect that we have been deceived in our cancer; that our mere neoplastic friend is rather a vegetable growth, for we hear of "the long, tangled, matted roots" which are seen pendent from the lower surface of a cancer that has been removed; or that it is an ambulatory animal that can travel with great rapidity from Jericho to June, as Robert Shurland, Baron Shappy, would say, or, more properly, as we are writing for the benefit of the medical profession, from diastole to systole, whenever it feels at all inclined to change its habitation on account of a leaky roof or defective plumbing. But now a new Daniel has come to judgment in the person of a correspondent of our contemporary, the "Evening World," who asserts that cancer is of reasonable mind and willing to make concessions. The Eastern cancer has roots, the Southern species ambles, but the Wisconsin scirrhus feeds on raw beef in preference to the senile tenderloin of its chosen companion. Mrs. ——, of Black River Falls, Wisconsin, having been the involuntary host of one of these cancer epicures for more than a year, has, in addition to clothing and shelter, provided her guest with a daily ration of seven pounds of raw beef, from which "it absorbs all the moisture, leaving the beef as porous as a sponge," and, while no worse than at the time of beginning this hospitable course, is merely "failing from old age."

This well-authenticated history opens a new field of practice to the physician. He may now console his patient who has consulted him as to how or when a personal cancer may be evicted or persuaded to throw up its lease. He will not brandish a sharp scalpel, a scoop, or a caustic plaster before his patient's eyes, but tell him to have an understanding with his cancer; to talk to it as man to man; to draw up articles of agreement in regard to how much beef shall be paid daily by the party of the first part, etc. The cancer has the nine points of possession, and denies its identity when one attempts to serve a writ of habeas corpus upon it. It argues that it knows that fact without being told of it in complicated legal verbiage, and, moreover, that it proposes to keep possession. It believes in the survival of the fittest, and it is rather inclined to the belief that in the end it will emerge from the bell end of the bugle. "I must live," it says, "but I am amenable to honorable propositions of compromise. Give me a *quantum sufficit* of raw beef, and I will let your tissues alone." The cancer means to do right, but, if forced to the wall, it will fight for its hearthstone and for its roof-tree, even if they are consumed in the struggle. But, while as yet we have no evidence that any legal papers or witnessed agreement between Mrs. —— and her cancer were executed in the case cited, it is certainly fair to assume that some understanding existed, and that the cancer carried out its part of the bargain faithfully. We know the nature of cancer to be progressive; that it is that of a rising, pushing character; that it pursues its steadfast course with untiring energy and unconquerable will. We know, moreover, that it sends up its card as soon as it has reached the age at which custom permits a youth to have such a thing, and we believe that its word would be as valuable as its affidavit. Again, we should trust it, for the obvious reason that we can not help ourselves, and it is the wise son who knows his own father's accessible points of character when he has been laid across his parent's knee for disciplinary purposes. Therefore the proper conclusions at which we should arrive are to be frank, conciliatory, and non-exacting with our cancer; to be willing to meet it half-way in settling upon the price. We shall pray for immunity from its attacks, and to fail not in providing for it its daily bread.

It is said that man's nature is mainly dependent on his environment, and the same rule that applies to the mammary cancer of Wisconsin may not be valid in the case of its congener of New York; and there may be some rare degree of moisture in Wisconsin beef that is unknown to the beef of other States. We know that New York beef does not become "as porous as a sponge" when it has been deprived of its moisture by being kept in the oven for a season when we have been late for breakfast. But for this fact, many a New Yorker would gladly ingraft a scion from this Wisconsin cancer on his gastric mucous membrane, and revel in the common boarding-house steak, if only for the satisfaction of feeling that, even if he could not feed himself, he could at least provide for his cancer.

We hope that more definite details will be furnished by the authority who reports the facts in this case, for it touches us in a most sensitive spot when our institutions are assailed even by negative insinuation; we are as jealous of the character of our cancers as of the magnitude of our business transactions and of our financial prosperity. We shall await with anxiety a more extended report of this case, and who knows but that further experiment may show that sarcoma may be bribed with pie, lupus with ice-cream, and tuberculosis with Welsh rarebits to regard the organs of their possessors as furnished lodgings and not as boarding-houses? Repugnant as it is to any man possessed of self-respect to pay blackmail, it is still more disagreeable for him to see his physical structure gradually absorbed by a tormentor that is beyond the jurisdiction of the court, and that never can be bullied into subjection by threats or indictments; and it seems that he who submits to the inevitable with the greatest resignation is the least in danger of a professional visit from the Lord High Stulticide, for his special deputy, the cancer, will act perfectly according to orders if that overworked functionary is unable to officiate in person. All that is needed is what was so earnestly demanded by the dying Goethe—more light.

## TUBERCULAR INFECTION FROM THE LOWER ANIMALS.

The question as to whether tuberculosis can be contracted by the use of the flesh or products of tuberculous animals can not be regarded as being definitely settled, but enough collateral facts have been observed to render the transmissibility of the disease probable rather than possible. Fowls have become infected by the sputa of tubercular patients, and hogs by the milk of cows in which there was tubercular disease of the udder or teats. The transmission of pulmonary tuberculosis in man from one individual to another is undoubted, and, unless the *Bacillus tuberculosis* is greatly modified in its passage through the lower animals, the danger of the infection traveling from animals to man would seem to be very great. If the bacillary origin of tuberculosis is admitted, there must be some agent or agents actively engaged in conveying the bacillus from one point to another. As tuberculosis is the most common of all human diseases, except the acute infectious disorders, the sources or vehicles of the infection must be correspondingly common. That the atmosphere plays any important part in this must be doubted, except where there has been a very close intimacy between persons primarily and others secondarily attacked, and even then the other opportunities for the transmission of the bacillus are great. If the domesticated animals, particularly those whose flesh or products are used for food, are to be regarded as possible centers of infection, we should have a reasonable explanation of the commonness of tuberculosis. There seems to be an agreement among all who have investigated animal tuberculosis that it is much more common in cows than in any other animals, and that it is much oftener observed at the present time than ever before. Whether this latter fact is due to any actual increase in the disease or to better means of observation can not as yet be stated. It is certain, however, that the conditions to which cows are now subjected are those which render them liable to the attacks of any diseases to which they are susceptible. They are regarded as machines, and everything is subordinated to the production of as large a quantity of milk as possible with the expenditure of as small an amount of money as possible. They are kept in improperly ventilated stables, the belief being that the warmer a stable is kept the greater will be the quantity of milk given, and crowded with brewer's grains, distillery swill, or any form of nastiness reputed to be galactagogue. Often they remain in these places for years, and their hoofs grow to such an extent that locomotion becomes impossible. That these conditions can of themselves excite tuberculosis is not asserted, but the teachings of human pathology are too clear to leave any doubt that they must render the animals extremely liable to be affected with any disease to which they are susceptible. The brisk competition among the breeders of "fancy" stock to produce heavy yielders of milk and butter has led to very close in-breeding, and it is well known that among their herds a large number of tuberculous animals is found. That beeves are not so liable to become tuberculous is probably because they are slaughtered at an earlier age and are never, except those which are fattened at distilleries, subjected to such unfavorable conditions as cows. It is also possible that their less intimate association with man may have a good deal to do with this immunity.

There is as yet no evidence that the milk from tuberculous cows, unless where there were lesions of the udders, has caused the disease in man, but the possibility of this is regarded as being great, and as a result the use of such milk has been prohibited by several boards of health. If such milk is condemned, the prohibition should be extended to other dairy products. The possibility of oleomargarine being a vehicle of the infection has been suggested. If it ever becomes established that the flesh of tuberculous animals is unfit for food, this product would certainly be shown to be highly dangerous, as it is made largely from the peritoneal fat, a tissue in which tubercular lesions are commoner than in any other part of the body except the lungs. It is well known that Hebrews are very free from tuberculosis; may not this be due to the fact that great care is exercised by them in the inspection of meat? This examination is confined to the inspection of the lungs, and in all cases where they can not be fully inflated or where there are adhesions of the pleura to the chest-walls the animal is rejected. A question as to the tuberculosis of fowls which would be of interest to investigators is that of whether a tubercular hen would lay eggs containing the *Bacillus tuberculosis*. That this is possible is shown by the fact that fœtal tuberculosis is not unknown.

Many other means of infection might be suggested, but we think that enough has been advanced to show the necessity of active interference by the proper authorities. The sanitary conditions and surroundings of cow stables should be improved, the use of grains, swill, etc., prohibited, and a pure water supply insisted upon. All tuberculous animals should be killed and all portions of them destroyed, preferably by fire. These latter measures have resulted in preventing the spread of pleuro-pneumonia, a highly contagious disease, and will probably at no distant day suppress it entirely. Local legislation would probably be of little use, as the laws, if they could be enacted in the different States, would vary so greatly as to prevent any active co-operation. The Federal Government should take hold of this matter, as was done in the case of pleuro-pneumonia.

## *MINOR PARAGRAPHS.*

### THE NEW YORK OPHTHALMIC AND AURAL INSTITUTE.

In the "Nineteenth Annual Report," for the year ending September 30, 1888, the surgeon, Dr. Herman Knapp, states that in many respects the institute's present facilities are unexcelled—for example, in its in-door department, its operating room, and its laboratory—but that the capacity of the building has long been inadequate to the accommodation of the number of patients who apply for treatment. He adds that, when a new hospital is built, the eye hospitals of Manchester and Birmingham and the eye clinic of the University of Heidelberg may serve as models. In view of the amount of teaching done at the institute and its excellence as to quality, we hope that before long a suitable building will be provided for it. Besides the regular clinics in the out-patient department, the wards, and the operating-room, courses in operations are given by Dr. R. O. Born, in the physical diagnosis of eye diseases by Dr. F. E. D'Oench and Dr. J. H. Shorter, in refraction, accommodation, and motility by Dr. J. E. Weeks, and in diseases of the ear, nose, and throat by Dr. M. Toeplitz. In addition, advanced students can pursue histological, bacteriological, and physiological investigations on the eye and ear in the laboratory under the guidance of Dr. Knapp and Dr. J. E. Weeks.

### STATE CARE FOR THE INSANE.

The State Charities Aid Association is deserving of the utmost praise for its efforts to rescue the indigent insane of the State of New York from the horrors incident to their confinement and alleged care in the county poor-houses. It is gratifying to be able to say also that the association's bill having this purpose in view is meeting with hearty advocacy on the part of the medical profession not only in the shape of individual physicians' signatures to petitions addressed to the Legislature, but also in formal resolutions passed by such representative bodies as the Association of Medical Superintendents of American Institutions for the Insane, the Medical Society of the State of New York, the New York Academy of Medicine, the Medical Society of the County of New York, and the New York Neurological Society. It is difficult to see how any legislator who is not wholly given over to the crooked ways of so-called politics can view the commission of the insane poor into the hands of county officials as anything short of inhuman and disgraceful. So obvious is this that there is indeed no opposition to the bill save such as springs from utterly unworthy motives. That this opposition may speedily be overcome is the wish of everybody acquainted with the neglect, to say nothing of the abuses, prevalent in the county poor-houses.

### A JOURNAL FOR NURSES.

With its January issue the "Trained Nurse," a journal "consecrated to those who minister to the sick and suffering in hospital and home," began its second volume. It is a neatly printed monthly of forty-six pages, edited by Margaret Elliot Francis, and published in Buffalo. As it has already absorbed the "Journal of Practical Nursing," and gives a monthly "Hospital Supplement," we infer that its prosperity is reasonably well assured. We are glad that there is ground for this inference, for its contents are of a sort to exercise a most favorable influence upon nurses and upon all who are concerned in the care of invalids and children.

### THE MARINE-HOSPITAL SERVICE.

The "Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States" for the year 1888 is a fresh reminder of the importance of that service and of the excellence of its administration. The annual reports of the surgeon-generals of the various public services have of late years been made more and more valuable by the increased space given to matters which, although not strictly required to be reported upon by those officers, yet have a vital bearing upon the conduct of their departments. In none of these reports has this feature been more manifest than in the one now under consideration. Within its 406 pages we find an account of the satisfactory progress of the work done in the laboratory of hygiene; a history of the Florida epidemic of yellow fever, illustrated by several reproductions of photographs and a map of Jacksonville; an excellent essay, by Passed Assistant Surgeon John Guitéras, entitled "Some Observations on the Natural History of Epidemics of Yellow Fever, based on a Study of the Mortality Statistics of the City of Key West; also a Plea in Favor of a Continued Investigation of this Disease by the Government of the United States"; and numerous short clinical reports and articles on special subjects—all of value and creditable to the medical corps.

### JAUNDICE FOLLOWING A STROKE OF LIGHTNING.

In the "Charité-Annalen" Dr. C. Gerhardt gives an account of the case of a person who had been struck with lightning, an abstract of which is contained in the "Centralblatt für klinische Medicin." The patient came under treatment a few hours after the accident, having regained consciousness, but having no remembrance of what had occurred. The course of the current was shown by burning of the hair and by the characteristic arborescent figures, especially on the back. There was hæmatogenous jaundice, apparently due to the action of the electric current on the coloring matter of the blood, and the nerves and muscles were over-sensitive to both the faradaic and the galvanic current.

### THE ADULTERATION OF WINE.

What we have often said as to the eligibility of our native wines, especially from the point of view of purity, meets with pointed exemplification in an account lately given by the "Lancet's" Paris correspondent as showing the extent to which wine is adulterated or falsified in France. It seems that 1,500 casks supposed to contain wine were recently seized by the police authorities on suspicion, and samples from different casks were analyzed at the municipal laboratory of Paris. They were found to consist of a mixture in which there was not a single drop of wine, but the greater part was water with some alcohol of inferior quality, a little glycerin, a Chilian coloring matter known as "maqui," a considerable proportion of plaster of Paris, and common salt.

### ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending February 26, 1889:

| DISEASES. | Week ending Feb. 19. | | Week ending Feb. 26. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 12 | 4 | 6 | 1 |
| Scarlet fever | 351 | 53 | 323 | 36 |
| Cerebro-spinal meningitis | 0 | 0 | 4 | 3 |
| Measles | 292 | 26 | 264 | 9 |
| Diphtheria | 202 | 72 | 160 | 41 |
| Small-pox | 0 | 0 | 0 | 1 |

**The Annual Prize of the Medical Society of the County of New York.**—A prize consisting of a gold medal of the value of one hundred dollars is offered by the Medical Society of the County of New York for the best essay upon any medical or surgical subject submitted to the Prize Essay Committee on or before October 1, 1889, by any member of the society. The essay must present sufficient original experimental or clinical observation to make it a useful contribution to medical knowledge. Essays in competition must be designated by a motto and accompanied by a sealed envelope inscribed with the motto and containing the name and address of the author. The prize will be awarded at the annual meeting of the society in October, and the name of the successful competitor will then be ascertained by opening the envelope marked with the motto corresponding to that upon the successful essay.

All essays in competition must be sent to one of the members of the committee before October 1, 1889.

[Signed.]
E. H. Grandin,
W. G. Thompson, } *Committee.*
M. A. Starr,

**A Proposed New Laboratory and Gymnasium for the Harvard Medical School.**—At a special meeting of the faculty of the Medical Department of Harvard University, held on February 23d, it was announced that Dr. Henry F. Sears had offered to present the school with $40,000 for the purpose of erecting a pathological and a bacteriological laboratory. The matter was referred to a special committee. The plan proposed is to build a two-story annex to the present building, one story to be devoted to pathology and the other to bacteriology, and to fit up a gymnasium for the students in the basement.

**The late Dr. Dalton.**—Dr. W. H. Thayer, of Brooklyn, informs us that we were in error in stating, in our obituary notice of Dr. Dalton, that he was at one time connected with the Medical Department of the University of Vermont, at Burlington, and states that he was a member of the faculty of the Vermont Medical College, at Woodstock, which was formerly a flourishing school, including in its faculty, at various times, Willard Parker, Alonzo Clark, Robert Watts, Elisha Bartlett, and other eminent men.

**The Alumni Association of the Woman's Hospital** held its annual meeting at the New York Academy of Medicine on Wednesday, February 27th. The attendance and the character of the proceedings demonstrated the continued usefulness of the society. Dr. Bache McE. Emmet was chosen president for the ensuing year, and Dr. S. Van Ness secretary.

**Marine-Hospital Service.**—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the four weeks ending February 23, 1889:*

Austin, H. W., Surgeon. To proceed to Green Bay, Wis., as inspector. February 9, 1889.

Guitéras, John, Passed Assistant Surgeon. Granted leave of absence for sixty days, with permission to go abroad. February 13, 1889.

Wheeler, W. A., Passed Assistant Surgeon. Orders to proceed to Cleveland, Ohio, revoked. February 9, 1889.

Devan, S. C., Passed Assistant Surgeon. To proceed to Charleston, S. C., Savannah, Ga., and South Atlantic Quarantine Station, as inspector. February 9, 1889.

Wasdin, Eugene, Passed Assistant Surgeon. To proceed to Charleston, S. C., and assume charge of the service. February 23, 1889.

*Death.*

Urquhart, F. M., Passed Assistant Surgeon, died at Evansville, Ind., February 14, 1889.

**Society Meetings for the Coming Week:**

Monday, *March 4th:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica, N. Y., Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association (annual); Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *March 5th:* New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Hudson, N. J., County Medical Society (Jersey City); Androscoggin, Me., County Medical Association (Lewiston); Essex, Mass., South District Medical Society (annual—Salem); Baltimore Academy of Medicine.

Wednesday, *March 6th:* Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

Thursday, *March 7th:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua, N. Y.; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *March 8th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *March 9th:* Obstetrical Society of Boston (private).

## Proceedings of Societies.

### NEW YORK ACADEMY OF MEDICINE.

SECTION IN SURGERY.

*Meeting of January 14, 1889.*

Dr. R. F. Weir in the Chair.

**Exstrophy of the Bladder; Wood's Operation.**—Dr. W. T. Bull presented a boy ten years old upon whom he had done a plastic operation by which he had covered the exposed mucous membrane with flaps of skin, three in number, lifted up from the front of the abdomen and brought together over the raw surface of the bladder. He had made no attempt to insert the ureters into the penis as on two occasions he had attempted but unsuccessfully to do. The urine still dripped from the lower exposed portion of the bladder just below the rudimentary penis, but the boy's clothing gave him much less discomfort. The speaker was about to make him an artificial bladder which he should suspend so as to catch the drip. He had used silk sutures, lest catgut should form a nucleus for calculi.

The Chairman spoke of the expedients which had been attempted for the relief of this condition, such as turning the ureters into the rectum, and resecting a portion of bowel with the hope of making it do service as a bladder. Many surgeons were satisfied with making a close-fitting rubber covering for the exposed parts.

Dr. W. B. De Garmo showed photographs of the condition which he had found in a woman, thirty-three years old, who, although having an extensive exstrophy of the bladder, had married and borne a child at full term, and also of the same patient wearing an apparatus which he had arranged for her relief. The pubes had been open at the symphysis and the labia widely separated. After the birth of her child the uterus had undergone extreme prolapse. It hung between her legs, and this, together with the dripping urine, made her condition a very miserable one. He had had made a large rubber plate curved to cover the exposed bladder, and passing between her legs. A hard rubber cup was attached which entered the vagina and supported the uterus. A portion of the plate was made into a hollow into which the urine collected. The whole was supported by a suitably padded spring passing around the body at the hips.

**Congenital Deformity of Both Knees.**—Dr. J. P. BISSELL presented a child in each of whose knees there was a subluxation forward of the tibia with relaxed ligaments and a tonic contraction of the quadriceps extensor cruris muscle. It had presented by the breech, but no force had been used to bring on delivery. The patella was very slightly developed.

Dr. L. H. SAYRE recalled a similar case in which there had also been abduction. It had been partly cured by splints.

Dr. V. P. GIBNEY described a case in which a boy having a subluxation at the knee, resulting, it was said, from force used in a breech presentation, was continuing at twelve years of age to go about on all-fours like a brute. The legs were fully extended on the thighs and no flexion was possible. The patella was in place, but very small, and the muscles of the leg were atrophied in some groups and hypertrophied in others.

Dr. R. G. WIENER mentioned a case in which two girls in the same family had a dislocation of the tibia forward. They had both been born by the breech with the two lower extremities flexed so that the feet touched the face, and just after birth the legs had been superextended on the thighs nearly to right angles.

Dr. S. KETCH referred to a case in which the deformity had not been noticed till the child began to walk, and had then been taken for knock-knee.

Dr. A. JACOBI suggested that a scarcity of liquor amnii might hamper the movements of a child *in utero* so as to cause the class of deformities under consideration. Usually in time children recovered from them to a greater or less extent. The loss of reflex movement in the right leg in the case presented suggested a nervous complication affecting the muscles, perhaps of spinal origin. The right leg had the greater deformity. A case had been reported in France of entire absence of the patella.

**Cervico-thoracic Fistula.**—Dr. F. HÜBER presented a patient in whom a phlegmonous erysipelas of the neck had burrowed its way into the pleural cavity and the posterior mediastinum. Ribs had been resected, and both these regions as well as the neck had been drained. Recovery was nearly complete.

Dr. HÜBER also reported a case in which he had resected ribs expecting to find a localized pyæmia, but had come upon an abscess in the lung tissue, half an inch in depth, which he had drained. Full recovery had followed. The patient, a child of four years, had suffered from an attack of what was called pleuro-pneumonia.

The CHAIRMAN mentioned a case in which the autopsy had shown a pulmonary abscess in the part of lung adjoining the heart.

Dr. R. ABBE spoke of an instance in which he had removed an accumulation of pus from between the lobes of the lung, with the subsequent recovery of the patient.

**Amputation for Charcot's Joint Disease.**—Dr. HÜBER then presented a patient upon whom Dr. McBurney had performed amputation above the knee. The history was that the man, after having suffered many years from "chronic rheumatism," had become weak on his legs, walked badly, felt a tingling in his feet, and noticed an enlargement of the joint. There had been incontinence of urine preceded by retention. The day before his admission he had taken cold from a severe wetting and had lost the use of the limb entirely. The joint had been large and swollen; a week later there had been a grating sound when it was moved, and the ligaments had disappeared. A thick, turbid serum had collected in the joint and been repeatedly removed. Amputation was then performed to prevent suppuration.

The CHAIRMAN remarked that mild types of this disease had been benefited by opening and washing out the joint and applying a protective splint. Dr. Willy Meyer had done resection of the knee.

**Spasmodic Urethral Stricture from Anal Fissure.**—Dr. L. B. BANGS read the history of a case in which a man suffered a number of years from spasmodic stricture of the urethra, which gave him intense pain before and after every stool. He had become addicted to opium. Finally three old fissures had been found at the margin of the anus, and with their cure the stricture had entirely disappeared. The fissures had resulted from severe constipation due to lead-poisoning.

The CHAIRMAN related an incident occurring in private practice where the husband of a lady had consulted him about an intense pain from which his wife suffered whenever he attempted intercourse. Investigation had revealed that an anal fissure had given rise to vaginismus through some reflex connection between the parts. It had disappeared with the cure of the former affection.

**Thyreoid Tumors.**—The CHAIRMAN presented a number of hard tumors, varying in size from that of a pea to that of a horse-chestnut, which he had removed from the thyreoid gland of a patient suffering from myxœdema. The necessity of not removing the whole of the gland was now so well understood that one German surgeon had even resorted to transplanting a fragment of sound gland tissue to the peritonæum in certain cases. The tumors and two cysts had been enucleated in the present case with the greatest ease.

Dr. B. F. CURTIS spoke of having enucleated a cyst of the thyreoid, as large as an orange, without hæmorrhage. It had lain imbedded almost on the surface of the gland.

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## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN OBSTETRICS AND GYNÆCOLOGY.

*Meeting of December 27, 1888.*

Dr. J. E. JANVRIN in the Chair.

**A New Perineal Retractor.**—Dr. A. H. GOELET presented a new form of speculum designed to facilitate electrical and other intravaginal applications; also a new form of electrode by which stronger currents were made safe. He read a description of each, with directions for use. (See page 205.)

Dr. E. H. GRANDIN questioned whether it was necessary to employ any speculum when we applied electricity to the cervix or uterus, or to have the aid of a nurse. He insulated a ball electrode with chamois leather. Dr. Goelet's device seemed ingenious, but not simple and not necessary. A Sims speculum enabled one to make the parts aseptic, if that was desired.

The CHAIRMAN remarked that he had never cauterized the vagina. He had used currents of from 40 to 75 milliampères, and had never needed to use stronger ones. As to making the vagina aseptic previous to electrical applications, he did not deem it necessary unless there was excessive leucorrhœa. He hoped that electricity would be used more and more by country practitioners in the future.

Dr. H. T. HANKS thought the instrument ingenious for its purpose, and that it might also be found very convenient for other purposes than electrical applications. Thus in hospital or dispensary work, where it was necessary to attend to a number of patients in rapid succession, all of whom took the dorsal position unasked, the instrument might be of great service. He had used all sorts of electrodes without a speculum. The fewer the instruments which specialists in electricity put forward as necessary for practical work, the sooner general practitioners would learn to employ that valuable agent in many very common ailments.

Dr. Goelet said that he had never been able to use more than 40 milliampères without cauterizing the vagina, while with the applicator shown a current of 120 milliampères was entirely safe. The retractor allowed of much more thorough cleansing than a douche could effect. In his opinion, every worker in gynæcology should have a nurse, if only for his own protection. While it was true that a multiplication of the instruments called necessary tended to limit the employment of any therapeutic agent, it was also evident that a certain amount of skill, and a knowledge of existing means and of their proper applications, must be had by every practitioner to prevent his doing positive mischief in his efforts to alleviate suffering.

**Expulsion of an Extra-uterine Fœtus through the Rectum.**—Dr. J. P. Tuttle read a report of such a case which illustrated the difficulty often encountered in making a diagnosis of abdominal gestation. The patient, aged forty-five, had been in delicate health for many years; her stomach had always been sensitive and liable to attacks of nausea. She had had what she called "falling of the womb." She had at times missed a period. Considering the antecedent history, suspension of menstruation, followed by a persistent discharge, nausea, and a feeling of heat in the vagina, had not been taken as having special significance. When extreme constipation and paroxysms of pain referred to the rectum had developed, it had been thought due to what seemed a gravid and retroflexed uterus bearing backward upon the rectum. The patient had refused to be examined under ether, and had put herself in the hands of an electrician, who, after many applications of various currents, had left her with a very weak pulse and stomach and still flowing. From the woman's husband it had been learned that at one of these electrical séances there had been a severe hæmorrhage, with the discharge of a mass of clots. As the patient had become considerably better for a time, the condition had then been thought to be fibroid tumor or hæmatoma between the uterus and the rectum. She had insisted on going about again, although the flow had persisted in spite of internal medication and external applications. The tumor in the pelvis had meanwhile grown steadily, sagged lower and lower in the pelvis, and become softer. Later on the hæmorrhage had gradually been checked by applications of the persulphate of iron. Shortly after and quite suddenly, during an effort at stool, a fœtus had come away through a rent into the rectum, from which latter it was expelled, dead, but not altered beyond a slight maceration. The woman had then been put under ether and an attempt made to remove the placenta through the rent; but the shock produced and the hæmorrhage had been so violent that it had been necessary to desist. No other operative interference, least of all laparotomy, could have been endured at that time. The patient had slowly sunk, and died in collapse. Impregnation had probably occurred at the left ovary or in the left tube, the fœtus escaping afterward into the broad ligament, and from there, by pressure on the rectum in efforts at stool, breaking through the thinned rectal wall into the rectum itself.

**Hæmatoma of both Ovaries.**—Dr. R. A. Murray presented the tubes and ovaries of a woman upon whom, in view of a series of quite obscure symptoms, he had operated, expecting to find extra-uterine pregnancy, but being immediately impelled to surgical interference by the constant pain and loss of flesh which the patient had suffered from. Both ovaries had been found tightly bound down by extensive adhesions, in which both ureters had been badly involved, and from which they had been dissected free with great caution, and in spite of much hæmorrhage. A fold of the broad ligament had had to be sewed together on itself before the hæmorrhage was checked. The patient had recovered; all her symptoms, both local and reflex, had ceased; and her face had no longer the painful expression it had once worn. The case was significant in view of the symptoms simulating pregnancy which had deceived several expert men during five months previous to operation. It had turned out to be hæmatocele, pyosalpinx, and abscess of the ovary on both sides.

Dr. H. C. Coe opened the discussion on these two cases of real and simulated extra uterine gestation presented by Dr. Tuttle and Dr. Murray. He cited an instance in which a fœtus of about four months had been discharged from the rectum after an attack of localized peritonitis. In this case the woman had been married nineteen years, had not missed a period to her knowledge, and when the sac came away it had been supposed to be a fibroid of the uterus. The fœtus had evidently been dead a long time.

Dr. A. F. Currier spoke of the uncertainty of electricity used in suspected cases of extra-uterine gestation. It might do great harm if some other conditions were present, such as pyosalpinx. It did not lead to diagnosis, and, moreover, was advised by its advocates to be used in the first three months of the gestation, when the likelihood of a successful result by laparotomy was greatest, but would be lessened if electricity had been used previously.

Dr. A. P. Dudley remarked that we were still far from being able to recognize extra-uterine pregnancy in all cases. One prolific source of error arose from the fact that adhesions between the intestines in the pelvis often caused nausea and other symptoms like those of pregnancy.

**The Immediate Application of Forceps to the After-coming Head when the Cervix is Imperfectly Dilated.**—Dr. H. C. Coe read a paper with this title, giving an account of a series of cases where children had been born dead owing to delay in the escape of the head from a rigid and tightly contracting cervix. The grip of the head by the cervix had been such that traction on the body of the child had only resulted in pulling the uterus down to the vaginal outlet. He believed that all these children could have been saved by a prompt application of the forceps, although the chances of laceration would have been increased. He thought that, in the case of multiparæ who had borne several dead children, or of old primiparæ desirous of having a living child, a prompt use of the forceps would be justified where delay was caused in the manner described. The difference between the five or six minutes needed for manual extraction and the two or three minutes required for removal by the forceps might in particular cases mean the life or death of the child.

Dr. W. R. Gillette remarked that since one in every three children born by the breech died, the subject was very important. If we came to every case with a forceps in our hands, and put it on the moment the cord ceased to pulsate, the results to the children would certainly be better. He had himself, however, never been compelled to use the forceps in releasing the head, but had always found pressure from above sufficient.

Dr. Malcolm McLean favored the old method of pressure from above. In a recent case he had succeeded in this way after failing in attempts to apply the forceps. He thought more children died from the effects on the spinal cord of traction made to extract them than from suffocation from compression of the funis. Children who died shortly after birth often breathed for some time, showing that it was the roughness of their extraction which had killed them, caused by too much anxiety on the part of the operator to hasten labor.

Dr. R. A. Murray thought most after-coming heads could be extracted without the forceps, but that cases might occur where the cervix contracted strongly and would not dilate, and where the forceps might be used to cause dilatation. In very stout women, unless under anæsthesia sufficient to give muscular relaxation, it was not possible to make efficient pressure from above, and here the forceps was in order. However, many bad rents in the cervix could be avoided if we reserved the forceps for a decidedly exceptional class of cases.

Dr. Charles Jewett favored the use of the forceps in releasing the after-coming head. He kept the body of the child held well up on the body of its mother, especially when the cervix was indurated. As to the time a child could live after the placental circulation had ceased, an incident in his own experience might afford some clew; he had extracted a child alive (by Cæsarean section) five minutes after the death of the mother.

Dr. Coe closed the discussion by reminding the Section that he had only given an account of cases in which the standard methods had failed to save the life of the child. The manipulation of the child's body and the pressure on the fundus from above which he regularly employed were such as he had seen used in Vienna, where training in such matters was kept at the highest attainable point. He only maintained that in certain cases, after manual efforts had failed, and solely in the interests of the child, the forceps could probably be made to determine whether the child would be born alive or dead.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN THEORY AND PRACTICE OF MEDICINE.

*Meeting of December 17, 1888.*

Dr. R. C. M. Page in the Chair.

**The Treatment of the Acute Stage of Tetanus.**—Dr. J. C. Minor read a paper with this title. He observed that the whole question was a study in toxicology, a matter of poisons and antidotes, the disease being the direct result of alkaloidal poisons thrown out by the germs which were the acting causes of tetanus. Three or four of them had been isolated, one of which gave rise to tetanus, a second to tremors, paralysis, and convulsions, and a third to tonic and clonic spasms. The nervous centers in health had two forces which more or less balanced each other—the power to act when called into play, and the power of remaining at rest. The latter of these was lost in tetanus. The discharge of force was either incessant or with remissions due to simple exhaustion. Now, the production of toxic material seemed to be limited in time to three or four weeks, and, although 90 per cent. died before the production had ceased, there was always a chance—if life could be supported during the first two weeks, when the production was greatest—of the patients emerging from the toxic state and recovering. Most of those who died did so in the first week, and recovery mainly depended on treatment during that time. No means were known of expelling or neutralizing the poison of tetanus, but, as its action was expended on the cord and medulla, if we could so benumb these as to render them insensible to that action, the utmost was then done to prevent its otherwise fatal effect. The muscular spasms, which were clinically the important element in the disease, grew rapidly more intense and frequent, and death usually occurred in a spasm of extreme violence, which produced tonic contraction of the muscles of respiration and death by asphyxia. In some cases death came by cardiac failure or general exhaustion, but here, too, the spasms were the active cause. If their violence could be modified at the critical moments by having the nervous system previously under some other drug influence, the nerve-storm could pass safely over. Possession was here nine points of the law. Nothing short of toxic doses of eserine, chloral, or the bromides could displace the action of tetanine when it once had the nervous centers under its influence; but, on the other hand, it, too, was comparatively inert if those centers were already under an impression of an opposite sort.

Of the various drugs which depressed the action of the spinal cord, the reader himself preferred Calabar bean, chloral, and the bromides, with an occasional resort to chloroform in cases of very rapid development of the tetanine toxæmia, or in the culminating spasms of the crisis, where the treatment had previously been neglected or ineffectual. It then gave a temporary stay of proceedings, during which time chloral or Calabar bean could be given by the rectum or the hypodermic needle, so as to regain control.

For lessening muscular tension and preventing the spasms from the first, the salicylate of eserine was the best form in which to give Calabar bean. Just enough was to be given from time to time to prevent the rigidity from increasing to the point of spasm, increasing the doses and frequency with the progress of the disease toward its climax. The patient would then indeed be "between the devil and the deep sea," because both remedy and disease were cumulative in action. It was often well here to substitute chloral rapidly.

The symptoms of poisoning by Calabar bean under these circumstances were painless diarrhœa (easily checked by morphine), sudden extreme contraction of the pupils, profuse sweating, irregular tumultuous heart action, and dyspnœa. They could be relieved by about a fortieth of a grain of atropine or a quarter of a grain of morphine.

Throughout the disease quiet was absolutely essential to recovery, and proper nourishment second only to the medicinal treatment, if not equal in importance.

**Cerebral Syphilis.**—Dr. E. D. Fisher read a paper with this title. He remarked that of the three varieties of cerebral syphilis made by Monk—affecting respectively the bone, the membranes, and the cerebral blood-vessels—he should consider the last only. It was more usual in the third stage of the acquired form of the disease. Both large and small arteries were affected, and were narrowed in caliber by the growth extending inward. This growth was the result of an increased cell proliferation due to irritation by syphilitic virus, but it came in patches and not continuously. The cortex was often softened. While disease of the dura was rarely recovered from, that of the vessels was more easily treated. In case a terminal artery was affected, the result was apt to be permanent and not so easily treated. Unless the dura was involved there would be no headache. The symptoms were of a general sort. There was loss of mental power and of the ethical sense, resulting in brutality, selfishness, and improper actions. Insomnia was often complained of, and a sense of incapability was always present. The cranial nerves were always affected, especially the third, fifth, sixth, and seventh pairs. Chorioiditis and retinitis were almost characteristic of disease in the vessels. Any interference with vision should make us suspect the presence of such a disease. Weakness of mind, with paralysis in widely separated parts, was strongly significant. Sometimes insomnia, irritability, and dullness, numbness and tingling in the limbs, and perhaps headache, followed by hemiplegia, were all there was to judge from. The treatment consisted in the administration of the iodides, calomel, and the bichlorides, together with quiet and hygienic conditions.

Dr. W. H. Thomson thought the subject one of great importance and great obscurity. The diagnosis was often very difficult, and nervous symptoms alone insufficient. In all suspected cases he would have a very careful examination made of the body for minute traces of the disease. One of the most persistent and significant of these was tenderness and pain when pressure was made at the junction of the ensiform cartilage with the sternum. The great point to bear in mind when confronted with a suspected syphilitic affection—as of the brain, the skin, or the throat—was its inconsistency with all regular types of disease proper to these parts of the body.

Dr. L. C. Gray believed that a proliferation of round cells was the essential lesion in syphilis whenever it gave rise to structural changes. When one had to rely for diagnosis on nervous symptoms alone, headache relieved by iodide of mercury and often quinine, but not relieved by opium, and insomnia not relieved by hypnotics, were very significant symptoms. Irritability of temper occurring at night or in the afternoon every day, and hemiplegia in a patient less than forty years old, should be taken as *prima facie* evidence, especially if a cephalalgia ceased with the occurrence of the hemiplegia. Irregular convulsions without other explanation, with or without cephalalgia, and symptoms showing meningitis of the base of the brain, especially with implication of the third nerve, were noteworthy symptoms on which to base a diagnosis. Also an unexplained prolonged coma.

Dr. C. L. Dana remarked that little could be added to the symptomatology of cerebral syphilis which had not been considered in the writings of Miller, Gray, and Anderson. Its pathology was still largely to be discovered and worked out. He did not consider the small round cells as at the bottom of syphilitic lesions, nor of aid in explaining them when they did occur in such lesions. In brain syphilis the pathology seemed to him to include chiefly: 1. A local hyperæmia or asphyxia. 2. Localized areas of gummata and meningitis. 3. Inflammation of the cranial nerves. 4. Degenerative changes in peripheral elements.

Dr. Fisher remarked that the specific connection of the round cell with syphilis was to him doubtful, and that a bacillus was the only basis which he looked to for the pathogeny of the disease.

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## NEW YORK NEUROLOGICAL SOCIETY.

*Meeting of January 8, 1889.*

The President, Dr. George W. Jacoby, in the Chair.

**Traumatic Hysteria.**—Dr. Græme M. Hammond exhibited a male patient with this affection. He had been injured July 11, 1885, by falling upon a sharp-pointed iron rod an inch in diameter, which penetrated into the right submaxillary region about an inch and a third from the median line. It passed in about four inches in a direction upward, backward, and inward. Dr. Philip Zenner, of Cincinnati, had seen the patient half an hour subsequent to the accident and had described his symptoms in the "Medical Record." He was then suffering from paralysis of the right arm and leg, right side of the face, tongue, and palate. There had been complete anæsthesia of the left side of the face, and loss of taste on the left side of the tongue, and of smell in the left nostril. There had been intense pain in the region supplied by the middle division of the fifth nerve. He had consulted Dr. Hammond for the relief of this pain, and his advice had been that the middle division of the nerve should be excised. The patient had been sent by him to St. Luke's Hospital, where Dr. Robert Abbe had operated on November 16th. The nerve had been excised almost to Meckel's ganglion. The next day the patient had been again examined. The intense facial pain had disappeared, and the anæsthesia of the two other divisions of the fifth had also disappeared. The senses of smell and taste had been restored and the hemiplegia had been markedly improved. At the present time, seven weeks after the operation, there had been no relapse. The speaker's conclusion was that, although a certain amount of organic lesion was undoubtedly present, yet the fact that so many symptoms were relieved by an operation which would not have affected them at all if they had been produced by a central lesion, showed conclusively that hysteria must be regarded as the sole cause of their production.

Dr. C. L. Dana asked if the whole of the side of the tongue had been affected, and was answered in the affirmative. He stated that he had seen the patient previously, and that the gain in motor power since the operation was little; that there was still considerable loss of power and rigidity. There was no doubt that he had had a genuine trauma at the base of the brain, and that he now had an organic lesion upon which some hysteria was superimposed.

Dr. Frederick Peterson did not think that a true ankle clonus, such as was obtained in this case, could be obtained in simple and pure hysteria. He had not met with true clonus in hysteria, but had frequently observed what Gowers described as a spurious clonus, due to a half-voluntary contraction of calf muscles, and which Gowers considered characteristic of hysteria.

Dr. B. Sachs believed that an actual clonus was observed in pure functional neuroses at times, and stated that such cases were cited by Oppenheim. He thought the marked hysterical element in this case and the rapid improvement made it possibly one of hysteria. He asked if there had been any hysterical symptoms in the previous history of the case, and was answered in the negative.

Dr. Hammond thought there was a real organic lesion also in the case, but that the anæsthesia, part of the hemiplegia, and the loss of taste and smell were hysterical.

**The Thermo-polypnœic Center and Thermotaxis.**—Dr. Isaac Ott, of Easton, Pa., then read a paper upon this subject, the following being his conclusions from sixty experiments:

1. The thermo-polypnœic center is situated in the gray matter about the third ventricle at its anterior part.

2. This center acts reflexly, so that when heat is thrown on the body the sensory impulses excited by the heat are conveyed to the polypnœic center, which excites the respiratory center to throw off heat. It stands between heat production on one side and heat dissipation on the other.

3. The fall of the number of respirations caused by the heat after the removal of the polypnœic center is due to an excitation of fibers running in the vagi which inhibit the respiratory center.

4. The normal temperature of the body is not necessarily dependent upon the amount of heat produced or dissipated, for human calorimetry shows that the heat production varies, but the temperature remains nearly the same. The relation of heat production to heat dissipation decides the temperature.

5. The cortical centers, the cruciate and Sylvian, are thermotaxic.

6. The four basal thermotaxic centers are situated as follows: One in the caudate nucleus, one in the gray matter beneath the caudate nucleus, another in the gray matter about the most anterior part of the third ventricle, and still another in the anterior inner end of the optic thalamus in the gray matter about the third ventricle.

7. These six thermotaxic centers are more circumscribed than Gerard, of Geneva, believes.

8. These six thermotaxic centers are neither thermo-inhibitory nor thermo-excitor, but thermotaxic; that is, they main-

tain the balance between heat production and heat dissipation, so that the temperature is kept normal.

9. In fever neither increased production nor increased dissipation nor high temperature is necessary, but fever is mainly a disease of thermotaxis, a disorder of the four basal thermotaxic centers. It is true that in septic fever, in its initial stage, heat production usually runs temporarily ahead of heat dissipation, but exceptionally both are immediately diminished.

10. Antipyretics do not necessarily inhibit or excite heat production or heat dissipation, but act upon the thermotaxic centers disordered by fever as agents to restore order or normal thermotaxis. Professor Chittenden's careful researches prove that in healthy hungry rabbits moderate doses of quinine exercise at most only a very slight depressing influence on the temperature and have but a minimum effect upon the production of carbonic acid.

11. D'Arsonval's calorimeter for animals and man as modified by the writer is less liable to error than any other, as the agitator can be worked without opening the instrument or with hardly disturbing the sawdust covering.

12. Human calorimetry shows that an adult after a full meal produces between 300 and 400 heat units an hour, and not 110 calorics, as Helmholtz theoretically obtained.

Dr. DANA did not question the truth of the author's statements. But what interpretation should be made of the six thermotaxic centers he had described? Could the bodily temperature be regulated without them at all? He referred to a case of his that he had recently reported in which, although there was no cerebrum, basal ganglia, or cerebellum, and only part of the pons, yet the temperature was normal. The facts of human pathology should be brought into harmony with these physiological experiments.

Dr. OTT said it was difficult to understand the regulation of temperature in Dr. Dana's monster. Injuries to the corpus striatum disturbed the temperature, but the other thermotaxic centers served to regulate it.

**Eclampsia Infantum in its Relation to Fever.**—Dr. H. W. BERG read a paper on this subject, in which he took the ground that febrile eclampsia called into activity two sets of nerve-centers, the thermogenic and the convulsive. An alteration or lesion was produced in the thermogenic center by excessive hyperæmia, anæmia, or some minute structural change, causing a rise of temperature; secondarily it affected the unstable convulsive center in the medulla, especially in infants, whose medullæ were in an exalted state of irritation. He thought it probable that the motor and thermic nerves were intermingled in the medulla, and thus an irritation of one resulted in irritation of the other. Thus fever produced convulsions in children, while the process might at times be reversed, as in the status epilepticus, where after a period of convulsion the temperature began to rise, and, as Bourneville had pointed out, might reach an enormous height. He would treat febrile eclampsia, not with antispasmodics, but with antipyretic remedies—in other words, treat the cause of the convulsions. In this he had had gratifying success from the use of antipyrine and acetanilide, together with cold or tepid sponging with equal parts of water and alcohol.

Dr. OTT said that children no doubt had feeble thermogenic centers.

Dr. WILLIAM LESZYNSKY referred to a report of his some years ago of twenty or more cases of status epilepticus in which the rise in temperature had not accorded with the statements of Bourneville. As to treatment, he thought simple sponging with alcohol and water sufficient, and that the use of the wet pack or of antipyretics was objectionable.

Dr. WEBER would ask Dr. Ott if antipyrine and phenacetine acted by assisting the system in the dissipation of heat.

Dr. OTT stated that antipyrine probably decreased heat production and increased heat dissipation. The same would be true of phenacetine.

Dr. WEBER thought that dependence must not be placed upon antipyretics in severe cases of infantile eclampsia. Chloroform should be administered by inhalation, or chloral injected *per rectum.* He had seen cold water injected with success.

Dr. SACHS did not believe the relation of eclampsia and fever exactly that of effect and cause. Were convulsion due to high fever, it would be curious that in a fever preceded at its onset by convulsion, although the temperature continued high or increased, yet there were no subsequent convulsions. The fever in epilepsy was not due to excessive muscular exercise. A patient of his with hystero-epilepsy had recently had as many as two hundred convulsions in twenty-four hours, but without any elevation of temperature.

Dr. HARWOOD had treated eclampsia with chloroform and with the wet pack, and could heartily indorse the conclusions of Dr. Berg as to hydrotherapeusis.

Dr. BERG thought that the instance cited by Dr. Sachs of a fever ushered in by convulsion yet without further eclamptic seizures, in spite of the continuance of the fever, did not carry so much weight with it as would at first appear, for Hughlings Jackson had pointed out that the convulsive centers might become so exhausted that the fits would not be repeated. He preferred the wet pack now to sponging, because refrigeration by the latter method was more rapid and more dangerous. He had seen pneumonia produced by sponging. The pack was less harmful.

## Book Notices.

*A Treatise on Hysteria and Epilepsy*, with some Concluding Observations on Epileptic Insomnia. By J. LEONARD CORNING, M. A., M. D., Consultant in Nervous Diseases to St. Francis's Hospital, etc. Detroit: George S. Davis, 1888. Pp. 175.

THIS book, by an author who is well and favorably known in connection with his experimental and practical investigations concerning the uses of cocaine, is a very readable one. Of the author's style nothing need be said, unless it be that it is fluent and convincing, and carries with it the evidences of the refined scholar. The text gives evidence of familiarity with the literature of these all too common but nevertheless somewhat obscure diseases, and does not purport to solve the pathological questions concerning them, which continue to be a puzzle to all who have thus far attempted their solution. Not that there is any lack of theories concerning the pathology of these diseases, but the theories do not harmonize, nor can it be said that we have yet reached a theory which accords with all the conditions in the case. Aside from the author's theory as to carotid compression for the treatment of epilepsy, nothing especially original is offered in the way of therapeutic measures. In other respects the treatment recommended is that which has found favor with the generality of neurologists during the present generation. The book should form a portion of a treatise upon diseases of the nervous system which, we trust, will one day be given us by Dr. Corning.

### GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

ASSELIN & HOUZEAU, Paris.—C. Mauriac, "Syphilose du larynx, de la trachée et des bronches."

O. Doin, Paris.—J. Renou, "La diphthérie, son traitement antiseptique." (*6fr.*) —— F. La Torre, "Des conditions qui favorisent ou entravent le développement du fœtus." (*5fr.*) —— A. Deschamps, "Le caractère et la maladie."

Lecrosnier & Babé, Paris.—Thermes, "Traité élémentaire d'hygiène et de thérapeutique de l'hystérie."

Lecrosnier & Coulet, Paris.—Grasset, "Leçons sur l'hystéro-traumatisme."

G. Masson, Paris.—Ledé, "Quelques réflexions sur l'application de la loi Roussel."

H. Bruhn, Brunswick.—P. Baumgarten, "Lehrbuch der pathologishen Mykologie," ii, 1. (4*M.* 60.)

Gnevkow & von Gellhorn, Kiel.—J. Hahn, "Ueber Transplantation ungestielter Hautlappen nach Wolfe, mit Berücksichtigung der übrigen Methoden." (2*M.*) —— J. Kühl, "Ueber tuberkulöse Magengeschwüre." (0*M.* 60.)

Huber & Co., Bern.—O. Bernhard, "Ein Beitrag zur Lehre von der künstlichen Unterbrechung der Schwangerschaft." (0*M.* 60.) —— C. Bruhin, "Ueber die von den äussern Genitalien gesetzten aussergewöhnlichen Geburtshindernisse." (0*M.* 45.) —— W. Eissen, "Hornhautkrümmung bei erhöhtem intraokularen Druck." (1*M.*) —— J. Erni, "Beitrag zur Kenntniss der Blasentuberkulose." (1*M.* 20.) —— J. Kunz, "Bacteriologisch-chemische Untersuchungen einiger Spaltpilzarten." (0*M.* 70.) —— P. Niehaus, "Ueber traumatische Luxationen beider Hüftgelenke." (0*M.* 50.) —— J. Schwendter, "Die Beeinflussung der Blutconcentration durch den Flüssigkeitsgehalt der Kost." (1*M.* 70.) —— B. Streit, "Beiträge zur Kenntniss der Resectio pylori." (2*M.*) —— A. Voegtle, "Das Pilocarpin mit Rücksicht auf seine gegenwärtige therapeutische Bedeutung." (0*M.* 80.) —— W. Wolska, "Ueber die von Ruge beschriebene fötale Vascularisation der Serotina." (0*M.* 30.)

E. J. Karow, Dorpat.—E. Mehnert, "Ueber die topographische Verbreitung der Angeiosclerose nebst Beiträgen zur Kenntniss des normalen Baues der Aeste des Aortenbogens und einiger Venenstämme." (1*M.* 50.) —— T. Pecht, "Untersuchungen über das Verhalten der Fette zu Zuckerresolution." (1*M.*)

Lipsius & Tischer, Kiel.—T. Tetens, "Ein Beitrag zur Lehre von den Oesophagus-Divertikeln." (1*M.* 20.)

Moser, Tübingen.—G. Elwert, "Ueber den Aderlass, besonders bei Apoplexia cerebri." (0*M.* 70.) —— G. Vogt, "Ueber Meningitis spinalis." (0*M.* 60.)

Stahel, Würzburg.—A. Alzheimer, "Ueber die Ohrenschmalzdrüsen." (2*M.*) —— A. Jansen, "Systematische Charakteristik der medicinisch wichtigen Pflanzenfamilien, nebst Angabe der Abstammung der wichtigeren Arzneistoffe des Pflanzenreichs." New ed. (1*M.*)

Veit & Co., Leipsic.—W. Braune, "Das Venensystem des menschlichen Körpers," ii. (0*M.* 30.)

C. Winter, Heidelberg.—J. Arnold, "Ueber den Kampf des menschlichen Körpers mit Bacterien." (2*M.*)

## BOOKS AND PAMPHLETS RECEIVED.

A Reference Hand-book of the Medical Sciences, embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. Illustrated by Chromo-lithographs and Fine Wood Engravings. Edited by Albert H. Buck, M. D., New York city. Volume VII. New York: William Wood & Company, 1889. Pp. v–795.

The Operations of Surgery. A Systematic Hand-book for Practitioners, Students, and Hospital Surgeons. By W. H. A. Jacobson, F. R. C. S., Assistant Surgeon, Guy's Hospital, etc. With One Hundred and Ninety-nine Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. 14–17 to 1006. [Price, $5.]

Transactions of the Royal Academy of Medicine in Ireland. Vol. VI. Edited by William Thomson, M. A., F. R. C. S., General Secretary, etc. Dublin: Fannin and Company, 1888. Pp. xxxv–482.

The Pathology, Clinical History, and Diagnosis of Affections of the Mediastinum other than those of the Heart and Aorta. With Tables giving the Clinical History of Five Hundred and Twenty Cases. Being an Essay to which was awarded the Fothergillian Medal of the Medical Society of London, March, 1888. By Hobart Amory Hare, B. Sc., M. D., etc. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. 9 to 150.

The Year-book of Treatment for 1889. Being a Critical Review of the Practice of Medicine and Surgery during 1888. Philadelphia: Lea Brothers & Co., 1889. Pp. viii–344. [Price, $1.25.]

Exploration of the Chest in Health and Disease. By Stephen Smith Burt, M. D., Professor of Clinical Medicine and Physical Diagnosis in the New York Post-graduate Medical School and Hospital, etc. New York: D. Appleton and Company, 1889. Pp. xiii–7 to 206. [Price, $1.50.]

Contributions to the History of the Development of the Teeth. By Carl Heitzmann, M. D., and C. F. W. Bödecker, D. D. S., M. D. S. [Reprinted from the "Independent Practitioner."]

International Pocket Medical Formulary. With an Appendix containing Posological Tables, Formulæ for Inhalations, Suppositories, Nasal Douches, Eye Washes, and Gargles; Hypodermic Formulæ; Table of Hypodermic Medication; Use of Thermometers in Disease; Poisons and their Antidotes; Post-mortem and Medico-legal Examinations; Artificial Respiration; Ligation of Arteries; Obstetrical Table; Urinalysis; Differential Diagnosis of Eruptive, Typhoid, and Typhus Fevers; Tables of Pulse, Temperature, Respiration; Motor Points, etc. By C. Sumner Witherstine, M. S., M. D., etc. Philadelphia and London: F. A. Davis, 1888. Pp. 269. [Price, $2.]

Gonorrhœal Infection in Women. By William Jap Sinclair, M. A., M. D. On Giddiness. By Thomas Grainger Stewart, M. D. Albuminuria in Bright's Disease. By Dr. Pierre Jeanton, Paris, France. [Wood's Medical and Surgical Monographs.]

The Anatomie of the Bodie of Man. By Thomas Vicary, Serjeant of the Surgeons to Henry VIII, Queen Mary, Edward VI, and Queen Elizabeth, etc. The Edition of 1548, as reissued by the Surgeons of St. Bartholomew's in 1577. With a Life of Vicary, Notes on Surgeons in England, Bartholomew's Hospital, and London, in Tudor Times, an Appendix of Documents and Illustrations. Edited by Frederick J. Furnivall, M. A., Hon. Dr. Phil, and Percy Furnivall, a Student of St. Bartholomew's. Part I. London: N. Trübner & Co., 1888. Pp. viii–336. [Early English Text Society, Extra Series, L. iii.]

A Dialogue against the Fever Pestilence. By William Bullein. From the Edition of 1578, collated with the Earlier Editions of 1564 and 1573. Edited by Mark W. Bullein and A. H. Bullein. Part I. The Text. London: N. Trübner & Co., 1888. Pp. vi–145. [Early English Text Society, Extra Series, L. ii.]

Prevention and Restriction of Small-pox. Document issued by the Michigan State Board of Health. [Reprinted from the "Annual Report" of the Board for 1888.]

The Morton Lecture on Cancer and Cancerous Diseases. Delivered at the Royal College of Surgeons of England, on Thursday, November 29, 1888. By Sir Spencer Wells, Bart., F. R. C. S. London: J. and A. Churchill, 1889. Pp. 5 to 47.

The Wrong of Craniotomy upon the Living Fœtus. Sixth Annual Address of the President, delivered before the Washington Obstetrical and Gynæcological Society, October 19, 1888. By Samuel C. Busey, M. D., Washington, D. C. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Report of the Committee on the Pollution of Water Supplies, appointed by the American Public Health Association. [Reprinted from the Report of the "Proceedings of the American Public Health Association."]

Second Annual Report of the Ophthalmological Department of the State Hospital at Norristown, Pa., for the Year 1887. [Reprinted from the "Eighth Annual Report."]

On Corpulence, especially its Treatment by a Pure Milk Diet. By George H. Rohé, M. D., of Baltimore. [Reprinted from the "Maryland Medical Journal."]

A Method of using with Ease Objectives of Shortest Working Distance in the Clinical Study of Bacteria. By A. Clifford Mercer, M. D., F. R. M. S. [Reprinted from the "Microscope."]

Pregnancy and Operative Surgery. Their Mutual Relations. By Louis McLane Tiffany, M. D., Professor of Surgery in the University of Maryland. [Reprinted from the "Transactions of the American Surgical Association."]

Report of the Section on Microscopy, Microchemistry, and Spectral Analysis. On the Microscopical Examination of Urinary Sediment. By William B. Canfield, A. M., M. D., etc. [Reprinted from the "Transactions of the Medical and Chirurgical Faculty of the State of Maryland."]

A New Adjustable Lamp Bracket. By Seth S. Bishop, M. D., of Chicago, Ill. [Reprinted from the "Journal of the American Medical Association."]

Report of the Committee on Ophthalmology and Otology. By Seth S. Bishop, M. D., of Chicago. [Reprinted from the "Transactions of the Thirty-seventh Annual Meeting of the Illinois State Medical Society."]

A Defense of Electrolysis in Urethral Strictures, with Documentary Evidence. By Robert Newman, M. D., New York. [Reprinted from the "Medical Register."]

Diabetic Gangrene. By William Hunt, M. D., Senior Surgeon to the Pennsylvania Hospital. [Reprinted from the "Transactions of the Philadelphia County Medical Society."]

The New York Society for the Prevention of Cruelty to Children. Fourteenth Annual Report, December 31, 1888.

Food *versus* Bacilli in Consumption. An Open Letter from Ephraim Cutter, M. D., LL. D., etc., to his Son, John Ashburton Cutter, M. D., B. Sc. With Answer. [Reprinted from the "Virginia Medical Monthly."]

Poisoning by Chrome Yellow used as a Cake Dye. The Subsequent Clinical History of the Cases, including a Case of Paralysis Agitans and of Chronic Endocarditis. By David Denison Stewart, M. D., etc. [Reprinted from the "Medical News."]

# Reports on the Progress of Medicine.

## CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M. D.

**Pastes** is the short title Gruendler gives to a paper in the "Monatsheft f. prakt. Dermat.," 1888, vii, 1029, which treats of the proper composition of these articles for use in dermatological practice. Pastes, he says, have two advantages over salves: First, they absorb the secretions and excretions from the diseased skin; and, secondly, they leave upon the skin a solid powdery substance after they are well rubbed on, which is more agreeable than a greasy surface, and a certain part of the medicament of the paste remains fixed on the skin. For a fatty base for all pastes the benzoated oxide-of-zinc ointment is now used in Unna's clinic, to which infusorial earth is added. This earth makes the best addition to the ointment in order to form a paste, because it absorbs water readily, and because it has sufficient body to form a good paste. Carbonate of magnesium will absorb more water, but has not sufficient body to form anything but a sticky putty or cement. It is excellent to add to some other paste in order to increase its absorptive quality, when it can be used to 10 to 20 per cent. of the volume of the mass; and alone or with zinc oxide as a dusting powder. The addition of 10 per cent. of infusorial earth to all salves changes them into good pastes. It takes from 30 to 50 per cent. of white bole, starch, or zinc oxide to make as good a paste. If absorption of the medicament is desired, we must use an animal fat, such as lard, tallow, or lanolin. The next most useful forms of fat are the vegetable ones, such as olive-oil, linseed-oil, cacao butter, and the like; and the least useful are vaseline and glycerin.

**The Treatment of Acne.**—The "Gazette des hôp." gives (1888, No. 112, 1039) the following formula for acne, as proposed by Isaak, of Berlin:

| | | |
|---|---|---|
| ℞ Resorcin | 2½ to 5 parts; | |
| Zinc oxide,<br>Starch, | āā 5 " | |
| Vaseline | 10 " | M. |

The same to be worn as constantly as the occupation of the patient will admit. It is said to have a very rapid effect.

**Eczema of the Eyelids.**—The following formula is commended ("Monatsheft f. prakt. Dermat.," 1888, vii, 1057):

| | | |
|---|---|---|
| ℞ Cold cream | ℥ ijss.; | |
| Resorcin | gr. iij. | M. |

Apply three to four times a day, avoiding the application of water to the lids.

**The Prevention of Dermatitis due to Horse-back Riding or to Walking.**—Unna ("Monatsheft f. prakt. Dermat.," 1888, No. 21) recommends washing the parts about to be exposed with over-fatty ichthyol soap, or smearing them with a weak resorcin or ichthyol ointment.

**Syphilis and Eczema Seborrhoicum.**—Unna is the apostle of eczema seborrhoicum, and his enthusiasm for his latest dermatological designation is great. He now ("Monatsheft f. prakt. Dermat.," 1888, No. 21) introduces it to us as an active agent in determining certain forms and locations of syphilis. Already it has robbed us of much of our fondly imagined knowledge of eczema, and now it invades the precincts of syphilis. We are told that just as the pustular syphilide is the product of a mixed infection, the result of the entrance of a pus coccus into a small papular follicular syphilide, so there are a number of syphilides which are the product of a mixed infection—a syphilide plus a seborrhœal eczema. His attention was first called to the possibility of this occurrence by observing how closely a corona Veneris kept within the bounds of a seborrhœal eczema of the forehead. Subsequent study convinced him that where secondary syphilis manifested itself it adhered closely, both in its extent and in the intensity of the inflammation, to the seborrhœal process. There are three varieties of eczema seborrhoicum: 1. The scaly form, with scarcely any inflammation, which shows itself as spots or patches of circular form, pale or slightly reddened, and scaly (pityriasis capitis, pityriasis barbæ, etc.); or as slightly raised, irregularly defined and confluent, yellowish-red, and scaly papules (eczema seborrhoicum papulosum corporis; rosacea seborrhoica faciei); or as regular-shaped, yellowish-red, papular discs and rings which enlarge in a serpiginous manner, with an eroded periphery and yellow depressed center (eczema seborrhoicum annulatum and certain forms of eczema marginatum nuchæ). From this first or mild variety the process intensifies itself in two directions and assumes variety No. 2, where the amount of scales and fat increases, leading to the crusted form (many cases of so-called psoriasis gyrata and annulata and many dry eczemas); or 3. This is the moist form, where there is great increase of the catarrhal process (eczema seborrhoicum madidans). The higher grades of the disease may appear in the same three forms that were described under the first grade, but the scaly form most often takes the form of discs and rings, while the moist form assumes, preferably, the shape of plaques. Wherever any one form of seborrhœal eczema exists it may become the ground for the development of the papular syphilide or may determine the site of the eruption. The papulo-crustaceous syphilide without ulceration is characteristic of a seborrhœal origin, and is merely a lenticular syphilide upon a crusted seborrhœal eczema. It occupies quite constantly the favorite sites of seborrhœal eczema, especially the scalp and face; it leads to most if not all cases of corona Veneris, when it will be noted that the yellow seborrhœal border stretches beyond the borders of the papules. The inflammatory, yellowish-red, flat seborrhœal papules change under the influence of syphilis into large, raised, hard, flesh-colored to copper-colored, dark, pigmented specific papules or papular infiltration of the border. They also affect the naso-labial furrow, a favorite location for seborrhœal eczema, the eyebrows being at the same time affected, and also the lips, occurring in the form of a row of warty, hard, pea-sized papules. This arrangement is determined by the seborrhœal eczema and not by the syphilis. On other parts of the body, especially on the thighs and legs, this form of syphilis takes the serpiginous form, and, contrary to the general opinion, this arrangement also is not due to the syphilis, but to the seborrhœa. So also in psoriasis-like syphilis of the palms the seborrhœal eczema is the determining factor. Many forms of so-called syphilitic alopecia; the flat, papular, nummular syphilide of the face; the so-called syphilitic vegetations of the vagina, vulva, etc.; even some of the tertiary lesions of syphilis, such as the serpiginous ulcerating or non-ulcerating tubercular syphilide of the scalp, neck, breast, and axillæ—all these are mixed infections, syphilis *plus* eczema seborrhoicum.

Both the secondary syphilide and eczema seborrhoicum are principally diseases of the flexor surfaces of the extremities, the head, and the genitals. It, therefore, is quite in character for the seborrhœal eczema to keep up a constant slight grade of irritation of the cutaneous blood-vessels, which at any moment may increase into inflammation. A patient may for years have a very slight unobserved scaly spot of seborrhœa which at once, under any damaging influence, may become the starting-point of an intense eczema. Such a one contracting syphilis, the latent point becomes the seat of the syphilide. The diagnosis between a papular syphilide and a papular eczema is as follows: The syphilitic papule has always an inclination to roundness, is mostly only as large as a pea or a lentil, and tends, in a considerable outbreak, to conform to an average size. It is never very scaly, frequently quite smooth, surrounded by a ragged collar of epidermis, and is hard and elastic to the touch. The seborrhœal papule is round only in certain places (on the sternum, axilla, and forehead), mostly irregular in shape, with outrunners. It varies much in size, being polymorphous. It is never fully smooth, but always scaly and sometimes covered with thick crusts. It is never hard and elastic to the touch. The syphilitic papule participates more or less in that dark-brown color which is characteristic of syphilis, and in and about it there is more or less pigmentation proportional to the age of the syphilide. The seborrhœal papule has a yellowish-red, fresh color, and the surrounding parts have a yellowish tint. It is never pigmented, excepting when chloasma is present. The syphilitic papules may become confluent but not serpiginous, while the seborrhœal papules are always serpiginous. Syphilis never itches or causes pain; seborrhœa often does. Besides the head, genitals, and flexor sides of the extremities, syphilis affects the lower part of the trunk anteriorly and laterally; the seborrhœal papule, the sternum, the space between the shoulder-blades, and the small of the back. Syphilis explodes almost simultaneously on all parts; seborrhœa hardly ever hastens its slow course from the head to the feet, and very often remains confined to the upper half of the body. Syphilis responds promptly to mercurial treatment; seborrhœa does not. Sulphur, resorcin, and oxide of zinc have no curative effect upon syphilis, while they promptly cure seborrhœa. We have a right to suspect the action of a seborrhœa upon a syphilide where the efflorescences of an exanthem are polymorphous, sharply defined, and confluent; where the papules are partly specific in color and partly fresh, yellowish-red; where quite smooth papules are wanting, while most of them are covered with scales or crusts; where they are arranged serpiginously in circles or rings; where around the papules, or especially in the centers of the rings, the yellow color of seborrhœa is present; where eczematous symptoms, moisture, heat, tension, are present; where there is more or less itching; where the syphilides appear on the hair-line of the forehead, in the naso-labial fold, on the sternum, between the shoulder-blades, and on the small of the back; where they are situated mostly or alone on the scalp, in the axillæ, or on the mons Veneris, the genitals, and anal region; and where the lesions do not yield readily to general treatment, but at once improve under a local treatment fitted to the seborrhœa. This combination of eczema seborrhoicum and syphilis is particularly obstinate to treatment when that is directed against the syphilis alone, but yields readily to resorcin, sulphur, and the like remedies without a continuance of the antisyphilitic treatment.

**Is Alopecia Areata Contagious?**—This question still remains unanswered, or at least in doubt. Eichhoff appears ("Monatsheft f. prakt. Dermat.," 1888, vii, 1025) as a witness on the side of those who maintain that the disease is contagious in a certain number of cases, and cites the occurrence of several cases of the disease in an epidemic manner. He has found antiparasitic remedies of greatest service in the treatment of the malady. He proposes to drop the name of alopecia areata and to substitute a name more suggestive of the ætiology, such as alopecia areata trophoneurotica, or alopecia areata parasitaria.

**Alopecia Areata.**—Leloir ("Gaz. des hôp.," June 30, 1888) divides the cases of alopecia areata into three classes. In the first class (trophoneurotic) he places those cases in which he has been unable to find the least trace of contagion, but in which, on the other hand, there have been nervous phenomena sufficiently characteristic and closely related to the appearance of the hair-fall to constitute a probability of cause and effect. A little more than one third of his cases belonged to this class. In them the disease was preceded by pain in the head or neuralgia of the side from which the hair fell. Neuralgia, hyperæsthesia, anæsthesia, or other nervous sensations were felt in the site of the bald spots. Moral shock or blows upon the head were noted in some cases, and in a case of general alopecia areata the patient was ataxic. Syphilis was present in some cases, in one of which severe cerebral syphilis preceded the onset. In one case of trophoneurotic alopecia the cutaneous nerves presented all the signs of parenchymatous degeneration. In his second class of cases neither nervous phenomena nor contagion can be established as a cause. These also formed a little more than one third of his cases. In the third class contagion could be established, but the most careful examination failed to reveal any particular parasite as the cause. In one case he found the little granulations which Robinson considered as micrococci, but he is convinced that they were the mast-cells of Ehrlich or granulations of precipitated coloring-matter. These cases formed a little more than one fifth of his whole number.

**The "Atrophic Hair-fall" of Joseph** is called in question by Dr. D. Samuel (Virchow's "Archiv," vol. cxiv, part ii, p. 378), who says that it is very remarkable that the pronounced fall of the hair after section of the second nerve of the neck had never been noticed before by older experimenters than Joseph. Samuel has experimented for many years on birds, and has never seen the feathers fall even after excision of the entire axillary plexus. Of late he has been repeating Joseph's experiments upon cats, and has, like him, seen the hair fall out after two weeks. There was then an infiltration of the tissues about the wound, followed by the formation of abscesses. As soon as the inflammatory infiltration subsided, the hair began once more to grow, and was soon as vigorous as before. This same accident of abscess formation also occurred in Joseph's experiments. Some of Joseph's cats died of pyæmia or tuberculosis. This leads Samuel to regard the alopecia in all these cases as simply inflammatory defluvium capillorum. This sets aside the influence of the nerves in the production of the hair-fall, and their action is further militated against by the fact of the rapid regeneration of the hair in animals that survive the operation long enough and recover from its effects.

**Some Atypical Varieties of Lupus Vulgaris.**—In "La France médicale" for August 4, 1888, Leloir describes certain atypical varieties of lupus vulgaris which he has met with. The *first* variety is one in which the tubercles have a somewhat glassy, semi-opaque appearance. Microscopical sections show that colloid degeneration of the tubercles has taken place, and that the nodules are entirely deprived of blood-vessels. In them the *Bacillus tuberculosis* is infrequently found. This form he regards as a variety of cutaneous tuberculosis and proposes for it the name of "lupus vulgaris, variety colloid." A *second* variety presents tubercles which are transparent, flabby, and slightly gelatinous; blood-vessels, sometimes arborescent in form, course over them; at times little transparent points are seen at their summits, which are little cysts inclosing a mucoid substance; they rarely ulcerate. In this variety the lupus infiltration is diffused irregularly and not very densely in the derma. The connective tissue of the skin has lost its fibrillar appearance and has become softened, a little granular, and gelatinous, and its elastic fibers have entirely disappeared. The embryonal cells of the infiltrate tend to group about the blood-vessels. But few giant-cells are found, and the few bacilli present are located in or about the giant-cells. The blood-supply is abundant, the vessels being often dilated, and hæmorrhages are not infrequent. This form is also a variety of cutaneous tuberculosis, and the name mucoid or myxomatous variety of lupus vulgaris is proposed for it. The *third* variety has already been described by Leloir and Vidal in 1882 under the name of *lupus sclèreux.* All the varieties are but forms of tuberculosis of the skin.

**Kraurosis Vulvæ** is the name proposed by Breisky for a form of atrophy of the skin of the pudendum muliebre. Janovsky ("Monatsheft f. prakt. Dermat.," 1888, vii, 951) now reports six cases which he has had under observation. The disease has its seat in the vestibule, the labia minora with the frenulum and præputium clitoridis, the inner surfaces of the labia majora up to the posterior commissure, and the contiguous skin of the perinæum. It gives rise to the appearance of a defect in the development of the normal folds of the vulva. At times the labia minora are apparently wanting, and frequently there is no præputium clitoridis to be found. One result of the disease is a stenosis of the vulvar entrance which offers obstruction both to coitus and to parturition. The affected skin is white and dry, with its epidermis often thickened, and telangeiectatic vessels are visible. The cause of the disease is obscure; possibly a long-continued blennorrhœa might cause it; possibly it is a congenital defect; possibly there may take place in the vulva a process analogous to leucoplakia buccalis. Treatment is of no effect.

**An Injection for Gonorrhœa**, both acute and chronic, as recommended by Audhouin, is ("Gaz. des hôp.," 1888, No. 112, 1039):

℞ Rose-water,
Cherry-laurel-water....................āā 100 parts;
Antipyrine.......................... .. 5 "
Zinc sulphate.......................... 50 "
M. To be used several times a day.

**Blennorrhœa in Women.**—During the period of six years Horand has had under his care 5,090 women and 764 little girls suffering with blennorrhœa, and it is upon this large number of observations that he gives us ("Lyon méd.," 1888, lix, 251) the present study. He is a firm believer in the gonococcus as the cause of blennorrhœa, and teaches that where the gonococcus is not found there is no blennorrhœa. In the women the parts affected are, in order of frequency, the urethra, vagina, glands of Bartholin, uterus, and anus. In little girls the order is vagina, urethra, vulva, and anus. Urethral blennorrhœa in women causes little disturbance; it may give rise to slight itching or more frequent urination; cystitis is rare. It may continue a long time, months or years, and is apt to remain limited to the urethra. Inflammation of the vulva is rare in women, more frequent in girls. It is generally consequent upon mechanical irritation, want of care, direct contagion, attempts at rape, or accidental from contact with objects soiled with blennorrhagic pus. It may exist alone or associated with elytritis or urethritis. The epithelium of the vestibule seems to offer a good deal of resistance to infection. Elytritis is more frequent—rather more in girls than in women. Uterine blennorrhœa is very rare—it was found only six times in four hundred and eighty-three examinations. It is the result of transmission from the vagina. Bartholin's glands are affected only secondarily. Anal blennorrhœa is more frequent in women than in men. It is the result both of mediate and of immediate contagion. Gonorrhœal rheumatism is very rare in women, as is gonorrhœal ophthalmia. For the treatment of urethritis the best means is nitrate of silver, a grain and a half to the ounce. For elytritis in a child, irrigations with a warm boric-acid solution of one-per-cent. strength should be used; in adults, the silver nitrate in stick applied directly every four or five days. The same treatment is also best for the disease when it affects the uterus, the anus, or the conjunctiva.

## Miscellany.

**The New York Academy of Medicine.**—Dr. Laurence Johnson has been elected a trustee of the Academy.

**The New York Clinical Society.**—At the recent annual meeting Dr. L. Bolton Bangs was elected president for the ensuing year.

**The Philadelphia Polyclinic.**—The faculty and the hospital facilities have recently been strengthened by the appointment of S. Weir Mitchell M. D., LL. D., physician to the Orthopædic Hospital and Infirmary for Nervous Diseases, to the new chair of diseases of the mind and nervous, system; B. Alexander Randall, M. D., ophthalmic and aural surgeon to the Episcopal and Children's Hospitals, to the chair of diseases of the ear, vice Dr. Burnett, resigned; and Edward P. Davis, M. D., obstetrician to the Philadelphia Hospital, to the new chair of obstetrics and diseases of children.

**The Jenks Prize.**—The trustees of the William F. Jenks Prize Fund announce that the first triennial prize of $250 has been awarded to Dr. John Strahan, of Belfast, Ireland, for an essay on "The Diagnosis and Treatment of Extra-uterine Pregnancy." Arrangements have been made with Messrs. P. Blakiston, Son, & Co., of Philadelphia, for the publication of the essay, and it will appear also in the "Transactions of the College of Physicians of Philadelphia." It is added that the authors of unsuccessful essays can secure their return to any address they may name by sending it and the motto which distinguished the essay to Dr. Ellwood Wilson, College of Physicians, Philadelphia.

### ANSWERS TO CORRESPONDENTS.

*No. 255.*—There is nothing that can properly be called affiliation between any New York medical college and any European licensing body, but the diploma of an American college is recognized in Great Britain as evidence of three years' study, and its possessor may become a licentiate of the Royal College of Physicians of London, Edinburgh, or Dublin, by passing a satisfactory examination, without previous residence in Great Britain. For further information on the subject, see our issue for September 15, 1883, page 310.

*No. 256.*—Our information is to the effect that the office does not necessarily become vacant with a change in the national administration, but only by the death, resignation, or removal of the incumbent.

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Original Communications.

### ATELECTASIS.[*]

By JOSEPH O'DWYER, M. D.

The first question that I propose for discussion this evening—viz., Is atelectasis uncomplicated with inflammatory changes in the air-cells ever found in fatal cases of croup?—was suggested by our experience for many years at the New York Foundling Asylum. I believe Dr. Northrup will bear me out in the statement that since his connection with the asylum as pathologist not a single case of atelectasis where croup was the cause of death has been found which did not show evidence of beginning infiltration when submitted to the microscopical test.

I refer only to cases that presented the usual gross appearances of simple collapse, because well-developed pneumonia is readily detected without the aid of the microscope.

The point that I wish to make is this. Inflammatory products similar to if not identical with those found in pneumonia are present in the bronchial tubes in almost every fatal case of croup—excluding those, of course, in which death results from the laryngeal stenosis. There is no doubt that some of the fibrin, pus, etc., is forced into the vesicles by the suction power of inspiration when air can not enter freely to equalize the pressure, and also by gravitation.

How is such extraneous matter distinguished from the exudation originating in the pulmonary vesicles, or are there sufficiently characteristic changes in the alveolar walls, epithelial lining, etc., to detect incipient pneumonia independently of the contents of the air-cells?

If the latter, we must accept the evidence furnished by the microscope as conclusive. Otherwise it is of little value in the class of cases referred to.

In discussing the mechanism of acquired atelectasis it is only necessary to consider the atmospheric pressure brought into play by the inspiratory expansion of the chest and the opposing contractile power of the lungs.

The network of elastic fibers that surrounds the pulmonary vesicles is never in a state of rest except during fœtal life, and when the lungs subsequently return to the same condition.

This tissue is placed on the stretch with the first inspiration after birth, and possesses the remarkable property of remaining in this state of tension during life without losing its power of contraction.

The resistance offered to the entrance of air by this elastic power of the lungs has been variously estimated by different authorities, but the average is equivalent to a pressure of about half a pound to the square inch.

According to Draper, forcible inspiration produces only sufficient rarefaction of the residual air to give an inward pressure of one pound to the square inch.

If these estimates are correct, the maximum force available for keeping the air-cells inflated is only twice as great as the power that is constantly working to empty them. Collapse must therefore begin as soon as the inspiratory power is reduced a little more than half, provided there is no other force than atmospheric pressure to keep the lungs distended. It is immaterial whether the impediment to the ingress of air be due to mechanical obstruction in the air-passages or to feebleness of the respiratory muscles, the result being the same in either case.

That there is some other force at work is demonstrated by the fact that the lungs do not always collapse when exposed to the direct pressure of the atmosphere through an opening in the pleural cavity.

Examples of this kind are numerous. At the last meeting of the British Medical Association, Mr. Jessop, of Leeds, reported two cases in which he accidentally opened the pleural cavity in operations involving the walls of the chest. In one of these the opening was quite large and the lung could be distinctly seen holding its position, notwithstanding such free communication with the external air.

Still more common are the cases of subcutaneous or surgical emphysema resulting from perforation of the lung by broken ribs. Here we should naturally expect the air to meet with less resistance and enter the pleural cavity rather than force its way into the cellular tissue, yet pneumothorax is as rare a complication of this injury as surgical emphysema is common.

In the former class of cases, in which the surface of the lung is directly exposed to the pressure of the air with the same pressure on the inside, it is self-evident that some other force sufficient at least to resist the contractility of the lung must exist.

Dr. Samuel West,[*] of London, by a series of ingenious experiments, has clearly demonstrated that this force is the normal adhesion or cohesion existing between the opposing surfaces of the pleura, and that it is not only sufficient to counteract the elastic power of the lungs, but considerably exceeds it.

In other words, atmospheric pressure operating through the air-passages, together with this adhesive force, is greater than the same pressure on the outside added to the contractility of the lung. With normal inspiratory power, therefore, collapse will not occur when the cavity of the pleura is opened, but if this power be considerably reduced by shock resulting from the injury, the reverse will occur, which explains the fact that the lung does not always retain its position under the circumstances named.

It is easy to understand the mechanism by which atelectasis, whether due to the inherent contractility of the lung or to compression from fluid or air in the pleural cavity, is re-expanded as long as the chest-walls remain intact. In either case atmospheric pressure alone is sufficient to accomplish it when the cause is removed. But with an opening in the pleural cavity it appears to me, after a good deal of thought on this subject, that some undiscovered source of power is necessary to explain it.

Let us take, for example, a case of empyema in which the chest is distended with pus, the lung compressed against the spinal column to a small fraction of its normal size and bound down with a thick coating of fibrin. An opening is made, possibly a piece of rib exsected, which permits of the free entrance and exit of air, and, by the same arguments heretofore used, it would be easy to demonstrate that the lung under these circumstances should remain firmly contracted, but impossible to assign any known cause for its re-expansion. Yet we know from actual experience that such a lung does gradually return to its original dimensions, or nearly so, if not permanently injured by too long a continuance of the compression.

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[*] Read before the Section in Pædiatrics of the New York Academy of Medicine, February 14, 1889.

[*] "Bradshawe Lecture," "British Medical Journal," Aug. 20, 1887.

Atmospheric pressure on the inside, as before stated, can do no more than balance the same pressure on the surface of the lung. The opposing surfaces of the pleura are widely separated and the force of normal adhesion is lost. There is, therefore, nothing left to overcome the elastic power of the lungs, which in the adult has been estimated as equal to lifting a weight of one hundred and fifty pounds with every ordinary inspiration. To this must be added the resistance offered to inflation by the coating of fibrin on the visceral layer of the pleura, and the condensation of the lung and consequent interference with its nutrition resulting from the compression, which do not exist in ordinary atelectasis.

It is certain that all these obstacles to the re-expansion of the lung are finally overcome, but to explain the process by which it is accomplished theories only are available and none of them satisfactory.

The theory that the lung is drawn toward the ribs by the contraction of cicatricial adhesions is untenable, because adhesions do not always exist in the beginning, and before they can form the visceral and parietal pleura must be brought in contact, which requires considerable expansion of the lung to fill the intervening space. It may also be claimed that the opening in the pleural cavity is smaller than that of the larynx, and that the pressure on the surface of the lung is therefore less than in the interior, because air can not enter as rapidly to fill the partial vacuum produced by inspiration.

The objection to this theory is found in the fact that a free opening gives better results than a small one; and also that air entering through the natural passages has a much greater distance to travel, and the time and increased friction give the advantage to the short direct passage between the ribs, even though it be the smaller.

The same arguments are applicable to the valvular form of the opening, whether it be produced by the dressing or otherwise, provided it admit any air at all.

Any considerable distension of the lung from congestion which occurs in ordinary atelectasis is prevented by the pressure of the air on its surface.

The recoil of the condensed air from the sound lung during the act of coughing while the glottis is still closed appears to me to be the only force connected with the mechanics of respiration that is left. It is quite probable that this accomplishes something in starting the process of dilatation, but the effect is too transitory and too infrequently repeated to do more than this.

Turning now to the vital functions of respiration for a possible solution of this problem, we naturally think of the energy developed by the diffusion of gases, but this is probably not very great, and, even if so, would not aid inspiration any more than expiration, while it is an exclusively inspiratory force that is required.

The only other theory that has occurred to me, and apparently the only one left, is the assumption of an attraction between the hæmoglobin of the blood and the oxygen sufficiently powerful to operate at a considerable distance, similar to the attraction of the magnet for its keeper; otherwise it would accomplish very little, as the smallest bronchial tubes are also surrounded with elastic fibers, and, being devoid of cartilaginous support, collapse with the rest of the lung, thus keeping the air at some distance from the alveoli. There are several physiological facts that tend to sustain this theory which I will present at some future meeting of the Section if nothing better is offered this evening.

When a renewal of the air in the pulmonary vesicles is prevented, either from mechanical obstruction or from feebleness of the inspiratory muscles, the residual air is removed principally by absorption. This fact has been demonstrated by plugging one bronchus in the lower animals, when the air has been found to disappear as completely as in atelectasis from other causes. All that is necessary for this purpose is a continuance of the circulation for some time after the supply of air is cut off. These conditions are often present in premature or otherwise delicate new-born infants in which the heart sometimes continues to beat for many hours after all respiratory movements have ceased. I have seen at least two cases of this kind—in one of which the child lived for eleven hours and for a time respiration was carried on to all appearances perfectly, yet at the autopsy not a trace of air could be found, or other evidence that any inflation of the lungs had ever occurred.

The oxygen under these circumstances is rapidly absorbed because of its affinity for the blood, the nitrogen and carbonic acid because of the continuous elastic pressure to which they are subjected and in obedience to the law governing the solution of gases in liquids.

Next to the interference with the interchange of gases the most serious result of collapse of the lungs is the impediment it offers to the circulation. Every collapsed lung is of necessity a congested lung on the following grounds: 1. The capillary vessels are crowded into a smaller space than they occupied in the normal condition. 2. The aid afforded by the suction power of inspiration and the elastic compression of expiration is lost. 3. The blood entering collapsed portions of the lung which contain no air can not part with its carbonic acid or receive its supply of oxygen, and therefore remains venous. If Draper's theory of the capillary circulation is the correct one, this alone is sufficient to arrest its flow.

It has been estimated that a lung contracted and devoid of air is reduced to one eighth of the volume of the normally inflated organ, yet when we examine collapsed lungs after death very little reduction in the size is found, because the space formerly occupied by air is now filled with distended blood-vessels. The proof of this, if any were needed, is found in the great increase in weight of collapsed as compared with normal lung, which can not be due to anything else than blood, or some of its constituents.

The same interference with the circulation does not occur during fœtal life, for the reason that very little of the blood driven into the pulmonary artery escapes beyond the ductus arteriosus.

In the treatment of atelectasis it is important to remember that the power to inflate the lungs exists in the majority of cases, but is not used.

In young children this latent power can be called into play by exciting some of the forcible expiratory efforts—such as crying, coughing, or sneezing. Crying is particularly efficacious, because the approximation of the vocal cords, by obstructing expiration, condenses the air and at the same time prolongs the effort.

In older children and adults the same end can be attained by directing them to inspire deeply and then hold the breath, or to practice forcible expiration with the mouth closed and the nostrils almost occluded.

A good example of the dilating effect of obstructed expiration is found in the extensive emphysema so rapidly developed in every attack of spasmodic asthma.

The inflation of a collapsed lung when removed from the body, unless of very recent origin, requires continuous pressure maintained for some time. A single puff accomplishes nothing. Prolonged pressure is necessary to overcome the adhesion of the opposing alveolar walls, as well as the natural contractility of the lung.

The act of coughing is performed in such a brief space of time that it does very little in the way of dilatation, except by the deep inspiration that precedes it.

Momentarily stopping the mouth and nose, as suggested by Dr. Jacobi, particularly if done at the end of inspiration, will naturally tend to drive the imprisoned air downward into the collapsed portions of lung during the struggles of the child and its forcible efforts to expire.

The so-called hypostatic congestion of typhoid fever is probably always atelectasis to begin with; otherwise there is no reason that blood should settle in the most dependent portion of the lungs from weak heart any more than in the back or nates, which are still more dependent. Here particularly the power to keep the lungs inflated is almost always present, but is not used unless the patient's attention be repeatedly called to it, and the importance of this precaution can scarcely be overestimated.

In the asphyxia of the new-born, mouth to mouth inflation is easily performed, if the infant's nostrils are closed, and a moderate degree of pressure used at first in order to prevent forcing the epiglottis down over the larynx. I have never yet failed to expand the lungs by this method, and have often succeeded in establishing normal respiration after continuing this process for upward of half an hour. Inflation by means of a catheter passed through the larynx is less effectual, because most of the air returns by the side of it. To inflate a collapsed lung after removal from the body it is necessary to compress the trachea or bronchus around the blow-pipe in order to accomplish anything.

The instrument I here show you was designed to remedy this defect by tamponing the larynx and preventing the return of any of the air passed through it. With it inflation can be practiced either by the mouth or by means of a rubber-bulb attachment. I have used it with the latter only, having first learned by experiments on the cadaver how much air could be forced in with safety.

## TWO CASES OF ENTERECTOMY.*

By CHARLES K. BRIDDON, M. D.

The following cases were reported by Dr. Grant Madill:

Case I. *Gunshot Wound of the Intestine; Fifteen Perforations; Resection of the Intestine.*—John F., aged twenty, single, a native of the United States; occupation, driver; was brought to the Presbyterian Hospital, in the city of New York, in an ambulance, October 21, 1888, at 10.25 p. m. On arrival at the hospital he was suffering from a moderate degree of shock; pulse 120, respiration 20, and the general circulation was otherwise good. He was perfectly conscious, and gave the history of being shot by a policeman, at very short range, about forty-five minutes previous to his admission. He was unable to tell in what direction the weapon had been aimed. He was well nourished, and had enjoyed good health all his life.

Examination revealed a round wound in the abdominal wall an inch and a half from the median line and two inches above the crest of the pubes on the left side. There was also a similar wound on the posterior aspect of the right hip, about two inches above the gluteal fold. There was no tympanitic distension of the abdomen, normal intestinal resonance being obtained. Liver dullness was made out distinctly. One drachm of camphorated ether was administered hypodermatically, the wounds were dusted with iodoform, and a light antiseptic dressing was applied. No exploration of the wounds was made with the probe.

Dr. Briddon, the attending surgeon, was communicated with at once, and arrived at the hospital shortly before twelve o'clock, midnight. It was decided to perform an exploratory laparotomy at once. The patient's pulse at this time was 115 in a minute, temperature 98° F., and his general condition fairly good. Anæsthesia was produced by administration of chloroform, and he was placed on the operating-table. The abdomen was thoroughly scrubbed with soap and water, and the pubes shaved, and irrigated with a solution of bichloride of mercury (1 to 2,000). A soft-rubber catheter was introduced into the bladder, and eight ounces of dark, bloody urine were withdrawn. An incision four inches long was made in the median line, beginning just below the umbilicus and extending downward to the pubes. When the peritoneal cavity was opened, there was an escape of about eight ounces of bright-red blood. When the incision had been completed it was found to be too short to permit a thorough inspection of the peritoneal cavity, and it was extended upward four inches, thus making an incision eight inches long in the median line, extending upward from the pubes.

A good view could now be obtained of all the viscera. On examining the small intestine, there were found to be nine perforations within a length of about eight inches, thirty inches from the caput coli. One of these perforations was just at the edge of the mesentery. There was but slight eversion of the mucous lining of the bowel, and in each opening there was a small, dark-colored blood-clot. Each one of the perforations was closed separately by Lembert's suture of catgut with a fine cambric-needle. Large, flat sponges, wrung out in hot water, were kept over the intestines while suturing. Further examination showed a length of small intestine, an inch and a half long, eighteen inches from the caput coli, with four perforations. It was impossible to suture each opening separately, and a portion of the intestine, an inch and a half long, was resected. The contents of the intestine were prevented from escaping by being held firmly between the thumbs and index fingers of an assistant. Previous to removing the portion of intestine the mesentery was sutured close to its border with a row of cobbler's sutures of fine catgut, and the hæmorrhage completely controlled after the intestine had been removed. The divided ends of intestine were united by a single row of Lembert's sutures of catgut. The mucous membrane was not sutured, and there was some difficulty in keeping it turned in while suturing the muscular and peritoneal layers.

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* Read before the New York Surgical Society, January 23, 1889.

Further examination showed two perforations in the small intestine, an inch apart, five feet and a half from the caput coli. The larger was about half an inch in diameter, and there was considerable eversion of the mucous membrane. Each was closed separately by Lembert's sutures of catgut. The whole length of the small intestine was turned out of the abdominal cavity, surrounded by hot towels, and examined carefully, but there were no more perforations. The ascending and descending colon were looked over, but no wounds could be found. The transverse colon could not be examined so thoroughly.

The ureters were examined as thoroughly as possible, but no wounds could be found. The bladder contained a small amount of fluid. The walls of the bladder were examined, but no wounds were found. The abdominal cavity was now thoroughly irrigated with hot water and sponged out dry, the small intestines were douched with hot water and returned to the peritoneal cavity, the omentum carefully drawn down, and the pelvis sponged out until perfectly dry. A glass drainage-tube was passed down to the bottom of the pelvis, projecting from the lower end of the incision. The incision was now closed, the peritonæum being sutured separately with fine catgut, the skin and muscles being united by deep sutures of carbolized silk and the integument more closely united with a row of intermediate superficial catgut sutures. The operation lasted three hours and a half. The wound was dressed antiseptically. A very large amount of absorbent gauze and a firm abdominal binder were applied. A simple antiseptic dressing was applied to the wound of the hip. No exploration was made with the probe.

The patient's pulse at the close of the operation was 140 in a minute, but quite full and strong. The patient was now (4·15 A. M., October 22d) placed in bed, surrounded with hot blankets and bottles filled with hot water, and thirty minims of camphorated ether were administered hypodermatically. He recovered from the anæsthesia quite rapidly and became restless and noisy.

*5 A. M.*—Pulse still 140 in a minute but of a much better quality. Administered morphinæ sulph., gr. ⅛, hypodermatically.

*9 A. M.*—Patient quiet and feeling very comfortable; temperature, 100·8° F.; pulse, 140; respiration, 25. He was catheterized and six ounces of dark, bloody urine withdrawn. Was very thirsty and was allowed to hold small pieces of ice in his mouth.

*12 M.*—Is very comfortable; temperature, 100·4° F.; pulse, 138; respiration, 20. Has no nausea or vomiting and no tympanites or tenderness over the abdomen.

*3 P. M.*—Patient is very quiet and entirely free from pain. After being interviewed by a coroner, temperature, 101·8° F.; pulse, 150; respiration, 28. Catheterized and six ounces of bloody urine withdrawn.

*6 P. M.*—Is somewhat restless but has no pain. Temperature, 101° F.; pulse, 144; respiration, 25. Administered morphinæ sulph., gr. ¼, hypodermatically.

*9 P. M.*—Sleeping quietly.

*12 Midnight.*—Patient is somewhat restless but complains of no pain. Morphinæ sulph., gr. ¼, administered hypodermatically. Temperature, 102·4° F.; pulse, 150; respiration, 30. Whisky, ♏xl, tr. digitalis, ♏xv, administered hypodermatically.

*3 A. M., October 23d.*—Condition about the same. Repeated stimulation hypodermatically.

*6 A. M.*—Temperature, 102·5° F.; pulse, 150; respiration, 30. Stimulated hypodermatically.

*6 A. M.*—Failing rapidly.

*11.30 A. M.*—thirty-six hours after admission—died.

*Autopsy, October 24, 1888.*—Rigor mortis is fairly well marked. Examination shows a circular wound in the abdominal wall about one fourth of an inch in diameter, one inch and a half to the left of the median line, and two inches above the crest of the pubes. There is also a similar wound on the posterior aspect of the right hip about two inches above the gluteal fold. On opening the peritoneal cavity, there is found to be a slight exudation of lymph on the visceral layer of the peritonæum at two or three spots, and the peritonæum is slightly congested in a few places. There is a circumscribed line of catgut sutures in the small intestine eighteen inches from the caput coli, at a point where a portion of intestine has been resected. Twelve inches from this line of sutures and within a length of about eight inches there are eight points of suturing. About five feet and a half from this point there are two points of suturing. All the points of suturing are firmly closed and there has been no escape of the contents of the intestine into the peritoneal cavity. On tracing the course of the wound from the abdominal wall, it is found to pass downward, backward, and to the right through the abdominal wall. There is a circular wound in the wall of the bladder at the fundus a little posteriorly. On opening the bladder, it is found to contain about two ounces of dark, bloody fluid, and the wound of the fundus is found to perforate. There is also a wound of about the same size and shape on the right side of the bladder just above the neck. On introducing a finger into the wound, it is found to lead downward and to the right through the pelvis. A probe, on being introduced through the wound of the hip, passes easily through into the cavity of the bladder. The liver is considerably hypertrophied and is very anæmic. Spleen slightly enlarged. Heart slightly hypertrophied, valves normal. Lungs and kidneys normal.

*Remarks.*—The operation in this case occupied three hours and a half, with the aid of a good artificial light, with skilled assistants, and with all other requirements at hand. Not a moment was lost in consideration or discussion, and, when it is remembered by those familiar with the technique in such cases that over a hundred delicate sutures were made with the care and precision that are necessary to insure success, it will not be thought that the operation was unnecessarily prolonged, and yet it is not unlikely that the time occupied was a principal factor in the result.

The wound in the bladder was a complication to be taken into account. The autopsy proved that there had been no appreciable escape of urine into the abdominal cavity after the operation. The urine drawn off immediately before the operation led us to believe that there was a wound of the ureters or bladder, and, knowing from previous experience how easily such wounds are overlooked, I made a very diligent search with a good light and in a cavity thoroughly cleansed, but without avail. Impressed with the conviction that there must be such a wound, I made a second search with no better result, and yet the same gentleman who aided me in the search found it at the autopsy without difficulty.

Case II. *Strangulated Femoral Hernia; Gangrene; Resection of the Intestine; Death.*—Mary S., aged forty-eight, married; nativity, Ireland; occupation, housewife; was admitted to the Presbyterian Hospital, October 19, 1888, at 9 a. m. She stated that she had always enjoyed good health until the onset of the present trouble. She gave a history of having had a reducible hernia for several years. It had always been a source of discomfort, but she had never worn a truss, and it had always reduced very easily. Six days previous to admission she began to suffer pain in the hernial tumor, and since that time the hernia had been irreducible; there had been no movement of the bowels, although cathartics had been freely administered. The day following the onset of the pain she began to vomit, and was unable to retain anything. The integument became red and the tumor exceedingly tender three days after the beginning of the pain. On admission, the patient was found to be fairly well nourished; pulse, 108; respiration, 22; temperature, 99·5° F. She was suffering severe pain in the right inguinal region, and had stercoraceous vomiting. Examination showed a tumor in the right inguinal region, the integument over it being red, having the appearance of an abscess. There was extreme tenderness, with an obscure sense of fluctuation on palpation. Moderate degree of tympanitic distension of abdomen was also present. A diagnosis of strangulated hernia was made, and Dr. Briddon, attending surgeon, reported to at once. He arrived at the hospital at 11.30, and preparations were made for operation.

The pubes was shaved, and the inguinal region thoroughly scrubbed and irrigated with a solution of bichloride of mercury (1 to 1,000). Ether was administered, and the patient placed on the operating-table. An incision was made almost vertically over the tumor, and, on dividing the integument, there was an escape of about an ounce and a half of pus, mingled with fæcal matter and having a very decided fæcal odor. The incision, when completed, showed an abscess cavity about and within the hernial sac. Before disturbing the contents of the sac, the abscess cavity was thoroughly scraped with a sharp spoon and irrigated with a solution of bichloride of mercury (1 to 2,000). After the hernial sac and abscess cavity had been made aseptic, the contents of the sac were found to be a knuckle of small intestine. There was a perforating ulcer in the wall of the intestine of about the size of a nickel five-cent piece, and the whole loop was gangrenous.

The index finger was then passed up to the neck of the sac and the constriction found to be at the point of junction of the falciform fascia with Gimbernat's ligament. The stricture was divided with a hernia-knife, and the loop of intestine drawn down. Constant irrigation with Thiersch's solution was employed. There were decided constrictions of intestine where it had been caught at the point of stricture. The portion of gangrenous intestine—three inches and a half—was resected. The contents of the intestine were prevented from escaping by being held between the thumbs and index fingers of an assistant.

After the portion of intestine had been removed, a row of cobbler's sutures was introduced along the edge of the divided mesentery to arrest the hæmorrhage. Then the divided ends of intestine were brought in apposition and the mucous membrane was sutured around with fine catgut. Then the peritoneal and muscular layers were united by two rows of Lembert's sutures of fine catgut with a fine cambric-needle. The intestine was then thoroughly irrigated with hot water and returned to the peritoneal cavity. The wound was packed with iodoform gauze and an antiseptic dressing firmly applied.

The operation lasted an hour and a half. The patient stood the operation very well and recovered from the effects of ether without nausea or vomiting. Pulse 120.

Inasmuch as large doses of saline cathartics had been administered the day previous to admission, morphinæ sulph., gr. ¼, was administered hypodermatically to arrest peristaltic action of the bowels.

*2 P. M.*—Pulse 125, and not so good in quality. The surface of the body was covered with cold perspiration. Hot bottles were placed to the extremities, the patient was stimulated with whisky, and camphorated ether was administered hypodermatically.

*6 P. M.*—Pulse is still 125, but stronger, and there is a slight degree of reaction from the shock. She has no pain and no nausea or vomiting.

*9 P. M.*—Temperature 104·4° F., pulse 120, respiration 25. Is allowed to sip small quantities of hot water.

*6 A. M.*—During the night the patient was very quiet, but the pulse was rapid and feeble. She is now in a condition of collapse and sinking rapidly. There has been no movement of the bowels. Urine has been withdrawn twice with catheter, and when examined found to be negative. Stimulation continued hypodermatically. Temperature 104° F.

Patient gradually failed and died, 10 a. m., October 20th.

The post-mortem examination showed no signs of peritonitis, and there was quite firm union of intestine at the point of suturing.

*Remarks.*—At a late meeting of this society, at which time the subject of making primary resections in cases of gangrene in hernia was discussed, the opinion of the majority of the members was, I think, against such procedure, and I myself referred to two cases reported years ago in which the patients had entirely recovered, even without fæcal fistula, in which cases I had simply divided the stricture and incised the intestine. The condition of the patient in this instance I thought appeared to warrant resection. Special care was taken to thoroughly remove all septic material from the interior and in the walls of the sac itself before drawing down the gut, and yet the patient succumbed to the influence of shock in less than twenty-four hours. Both of these cases illustrate the influence of time in determining the result, and I think the profession are indebted to the enthusiasm and skill with which Senn, of Milwaukee, has pursued his investigations to find a method of doing these and kindred operations in a more speedy manner, and I trust he will continue his observations until he can furnish us with juxtaposition plates that will not be so difficult to procure as those he has especially prepared for him, and which his less fortunate brethren can not have. It may be that the rings composed of strands of heavy gut exhibited at the last meeting of this society by Dr. Abbe may supply this want, but, of course, there is much yet to be done in that direction, and we shall have to wait until researches in the laboratory have determined which is best.

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**The Value of a Tooth.**—In a recent suit against a dentist for extracting a sound instead of an unsound tooth, the jury awarded a Boston man $150 damages.

# CARE OF THE FEMALE BREAST DURING LACTATION.*

BY JAMES P. MARSH, M. D.,
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THIS is one of the hackneyed subjects of medical literature, and a writer upon it almost feels called upon to offer an excuse for his theme. Still, when we remember the number of cases of mastitis which occur and the diametrically opposite methods of treatment advocated by the best authorities and followed by the most skilled of practitioners, we are forcibly reminded of the fact that this subject is still open to dispute. This difference of opinion has been waged mainly over the question of ætiology; for, as we look upon the causation of any disease, so is our treatment influenced.

It is customary with medical writers to give a learned and abstruse classification of their subject, widely based upon histology and pathology, but, not being of Teutonic origin myself, I shall simply deal with the utilitarian side of the subject—namely, what is the cause of the disease, how shall it be prevented, and, once present, how shall it be treated? Nor shall these remarks be supplemented by numerous references to German and French books and journals. At the present time there seems to be a perfect mania among writers and abstracters to refer every statement to some foreign authority. Productions which in this country would be considered mediocre, if published in foreign archives by some professor or other, are seized upon and reviewed and abstracted as if they were remarkable. Still, as it is very proper in British medical literature to give the other fellow "down the banks," I shall put down as the first and prime factor in the causation of many a case of suppurative mastitis—a doctor. Many physicians are in the habit of resigning to the monthly nurses the entire care of the breasts of parturient women, and, should anything happen amiss, they are not slow to abuse the said nurse. I can not too earnestly urge upon the profession that the time has arrived when they are to be held individually responsible for every case of suppurative mastitis, as they are now admitted to be for every case of "puerperal fever." The emancipation of the monthly nurse is promulgated.

It is impossible to give intelligent care to the breasts during lactation without a due comprehension of the causes which enter as factors into the production of the three several forms of mastitis. Billroth asserts that mastitis is more frequent in the right breast, and that the greatest liability to the inception of the disease is within the first four weeks after labor. Anything which in any way presses upon or misplaces either the breast or nipple antecedent to lactation, unfits the gland for a performance of its function; hence, once more, we condemn that opprobrium of female attire—the corset. Nor shall we forget that the upright posture of mankind may have much to do with placing the mammæ at a disadvantage. It is true that the breasts are placed in a good position as regards their protection from external injury, but I have often thought that their flaccidity and weight, and consequent dragging downward, placed the ducts coming from the lower part of the gland at a disadvantage, having to raise their product against gravity. Herein, I think, we find the explanation of Winckel's table of 130 cases in which the lower part of the gland was affected 86 times against 44 times in the upper part. Could the human female perambulate on all-fours, I think that mastitis would be a rare disease. Still, for obvious reasons, I could not recommend a postural treatment based upon this theory.

I think that I have seen cases of mastitis which, so far as I could discover, were derived through so-called sympathy from existing ovarian inflammation. Just what the relation between the parotid gland, the mammæ, and the ovaries may be I can not say; but I can assure you that frequently one of the triumvirate takes on a vicarious disturbance in behalf of some one of the others. This phenomenon was very forcibly impressed upon me in a recent case where I removed the uterine appendages for inflammatory disorganization of the tubes and ovaries. On the second day after the operation the left parotid gland became very painful and swollen, and continued so for nearly ten days, when the disturbance subsided, the patient making a good recovery. Is it not reasonable to suppose that we may have similar phenomena in connection with the parturient condition? Wyeth has called attention to the fact that mumps occurring in females has occasionally caused disturbances in the mammary glands; and in one case where I delivered a woman suffering at the time from this disease, a metastasis to the ovaries occurred on the fifth day, and for two weeks her condition was very critical, although eventually she made a complete recovery. During the time she suffered from oophoritis she also had much discomfort from irritable breasts, and several times it seemed as if mastitis must supervene. Again, it is possible that the early and unmanifest presence of cancerous deposits may cause mastitis. This statement is made guardedly, but is rendered plausible by the history of a patient from whom I removed the entire breast for scirrhus. In this case the patient dated her first discomfort in the gland from a mastitis which occurred in her last confinement. It appeared to have no assignable cause and did not proceed to suppuration, although the gland was left permanently larger than the one opposite.

The elder writers were accustomed to attribute certain cases of mastitis to what they were pleased to call "a scrofulous diathesis." This phrase when interpreted means the presence either of attenuated syphilitic or tubercular virus. Are we, then, to find that the tubercle bacillus is at the bottom of certain cases of mastitis? I have been unable to find any researches upon this point, but it seems to me to be worthy the attention of bacteriologists.

Foremost among the debatable questions relating to the production of mastitis is that of the exact relation which "the caking of the milk" in the lactiferous ducts may have to the origin of the disease. Personally, I doubt that milk stasis can occur without the direct or indirect agency of micro-organisms or their products, and still more do I doubt that milk is converted into pus without bacterial presence. It may be objected that we frequently have milk stasis without suppuration, but this does not prove that the said organisms were not present, the individual being refractory to their influence. When the flow of milk through a certain set of lactiferous ducts is interrupted, there arises a pressure upon the lymph-channels and the capillaries. If this pressure is sufficiently long in duration, a liquefaction of the contiguous tissue occurs, thus furnishing a suitable nidus for bacterial life. Supposing, however, that this process is reversed—bacteria traveling down the lymphatics would give origin to lymphatic thrombosis; this, in turn, by pressure on the milk ducts, would bring about milk stasis. In this later hypothesis the bacteria are separated from a most fitting pabulum by thin glandular structures. If in either one of these hypotheses we have the *modus operandi* of the causation of mastitis, how irrational the treatment by strapping! for by this measure we only confine and drive into the deeper parts of the gland these mischief-producing agents.

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* Read before the Medical Association of Troy and Vicinity, December 4, 1888, as the opening paper in a discussion on diseases of the breasts of women.

As ætiological factors in the causation of mastitis we may remember colds, injuries, malformations, and malpositions of both or either the nipple or the mammary gland; still the great, the direct cause is excoriation or fissure of the nipple. I can not agree with those authors who claim that fissure of the nipple is as common in multiparæ as in primiparæ. My observation has led me to look upon first lactation as a very great factor in the causation of this disease. It is seldom that I have trouble with the breasts of multiparæ, unless they have had mastitis during some previous lactation.

The most frequent cause of abrasion of the nipple is too frequent nursing. When will mothers cease to nurse a child simply because it cries? Some mothers are so domineered over by this habit that the teat is almost constantly in the mouth of the infant. Thus the sensitive surface of the nipple is in a constant state of moisture, in this way softening and removing the protective layers of epithelium; moreover, the constant drawing can and frequently does bring about ecchymosis. Unless carefully treated, these abrasions rapidly lead to deep fissures, which are at times very rebellious to treatment, and constitute the basis of operations for micro-organisms. Truly does Parvin say: "An abrasion, ulceration, or fissure of the nipple is a door opened for the entrance of septic germs." Need it be said that the entrance of septic germs is nearly equivalent to making a diagnosis of mastitis? Ask you where these germs come from? The mouth of every nursing infant contains myriads of them. What more simple and elegant means of transportation could be devised? In the mouth of the child will be found the cause of many an obstinate case of fissured nipple.

Practically, the question of the prevention of mastitis resolves itself into the means to be adopted in order to prevent fissure of the nipple. Regarding, as I do, fissures of the nipple as of so grave a nature, it has been my custom to advise all who engage me to attend them during confinement to bathe their breasts, and especially the nipples, three times a day for at least two weeks before the expected labor in a mixture of alcohol, one third, and water, two thirds.

When the child has been born, there is nothing so important as to warn the young mother against the danger of too frequent nursing. The child's mouth ought to be frequently inspected, and suitable treatment adopted upon the slightest appearance of thrush. If the nipple or breast is hopelessly malformed or misplaced, we should at once firmly discourage all attempts on the part of the mother to nurse the child. In one case a neglect of this duty nearly involved a patient of mine in an extensive mastitis.

When fissures have become established, I have found nothing so soothing to the mother as an ointment composed of cocaine, ten grains, and lanolin,* one ounce. Nor is this application to be used merely as a sedative. In my hands it has almost always brought about a prompt healing of incipient fissures.† Nearly all authors upon this subject reccommend carbolic acid, nitrate of silver, etc. I never have employed these agents; I consider them harmful, and the theory upon which their use rests as fallacious. When cocaine fails and the fissures become deeper, there is but one remedy, and that is the withdrawal of the child, followed by a resort to stroking and the judicious use of the English breast-pump. It is true that an unskillful use of the breast-pump may produce traumatism of the breast, which, as we know, is a very menacing condition. Still this can not justify those who, following the lead of McClintock, never resort to this useful instrument. Nor can I agree with Professor Lusk when he places the mouth of the nurse on a footing with the pump; and still more do I object to the use of young puppies for a like purpose, because I think that these procedures are attended with great danger of septic infection. However, my experience has been that of Lusk, who writes that he is unable to speak with enthusiasm as regards the use of the various nipple-shields. As for the infants whom I have attended, I can not remember one who took kindly to a nipple-shield. When fissures have become established, and the child in nursing draws unmixed blood, it should be a positive indication to withhold the child from the breast. If, now, the trouble increases and mastitis becomes established, we must not be slow to relinquish that treatment which to this stage has been followed, and adopt measures which will bring about resolution or suppuration as speedily as possible.

It is to be remembered that the key-note as regards treatment is rest and cleanliness, which may be readily carried out, provided that only one gland is affected, but, unfortunately, this is the exception and not the rule. Moreover, the treatment should be viewed from two distinct points of view: First, as local, which is mainly mechanical; second, as constitutional, which is mainly medicinal.

When mastitis has established itself, the child should be taken from the breast and the suffering gland or glands placed in a sling, strong doses of calomel and quinine being administered. Still, when we have placed the affected breast in a sling, do not let us imagine that we have placed the gland at rest. There is no rest for a gland the ducts of which are engorged with milk removed but by one degree from pus. I also condemn rough rubbing of a breast suffering from mastitis, but there is no more beneficial treatment than a gentle stroking of the gland, always from the periphery toward the nipple—*i. e.*, in the direction of the milk-flow in the lactiferous ducts.

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* At one time I used vaseline, but it is not to be compared with lanolin.

† In one case of tetanus which appeared on the sixth day after birth the parents attributed the disease to this ointment. In reality, however, I have used it many times and never experienced any trouble when my instructions to thoroughly wash the ointment off the breast before nursing have been strictly followed.

Many are the methods of treatment which have been advocated for this stage of the disease. Of Kurtz's ice method and Squire's catheterization of the ducts I have not had any experience; on general principles, I should be afraid to adopt them.

While in this stage of uncertainty, in which the disease seems to vacillate between resolution and suppuration, there is no better local application than the lead-and-opium wash. If suppuration is inevitable, the lead and opium must give place to poultices. Anodynes should be administered to allay pain, and the abscess opened as soon as it has made an unmistakable point. In opening these abscesses, be they either of the parenchymatous or submammary type, an anæsthetic ought to be administered and an incision made sufficient to admit the finger and a good-sized drainage-tube. This is not a place for small incisions.

The great point in the treatment of large mammary abscess is thorough drainage; nor should the surgeon be overzealous in the use of antiseptic injections. Perhaps antiseptics had better be excluded from the treatment of these abscess cavities, and, where irrigation is required, simple boiled water be used. If, as sometimes occurs, extensive fistulæ result from these abscesses, there is but one thing to do, and that is to follow them up in all their ramifications and to thoroughly lay them open, however extensive they may have become. This procedure in certain bad cases seems to be a terrible mutilation, but it is, nevertheless, preferable to excision of the entire gland.

When suppuration has become established we are not to act entirely as surgeons, but, after the evacuation of the pus, we should prescribe cod-liver oil, iron, and a nourishing diet. The course of suppurative mastitis is very exhausting to the entire system, and, if the financial condition of the patient will permit, she will derive great benefit from a prolonged stay at the sea-shore or in the mountains.

**Intestinal Occlusion in Pernicious Fever.**—"Dr. A. W. Reyes, of Sagua la Grande, Cuba, in an instructive paper on 'Rare Forms of Pernicious Fevers,'" says the "Lancet," "directs attention to the occasional sudden occurrence of intestinal occlusion due to violent tonic spasm of the intestinal muscular fibers, which is sometimes associated with spasm of voluntary muscles also. In these cases there is great difficulty in arriving at a correct diagnosis, for the temperature is usually only slightly above the normal, the extremely prostrate, sometimes cyanotic, condition of the patient coming on very suddenly, and there being nothing to point to the malarial origin of the affection. Nevertheless, the rapid and powerful effect of quinine, especially if administered hypodermically, together with the exhibition of some alcoholic stimulant by the mouth, is, he considers, a pretty sure indication of the true nature of these cases."

## CANCER OF THE LARYNX;

### *TRACHEOTOMY.*

### BUCCAL PERFORATION OPENING INTO THE MAXILLARY ANTRUM.*

By A. GOUGUENHEIM, M. D.,
PARIS, FRANCE.

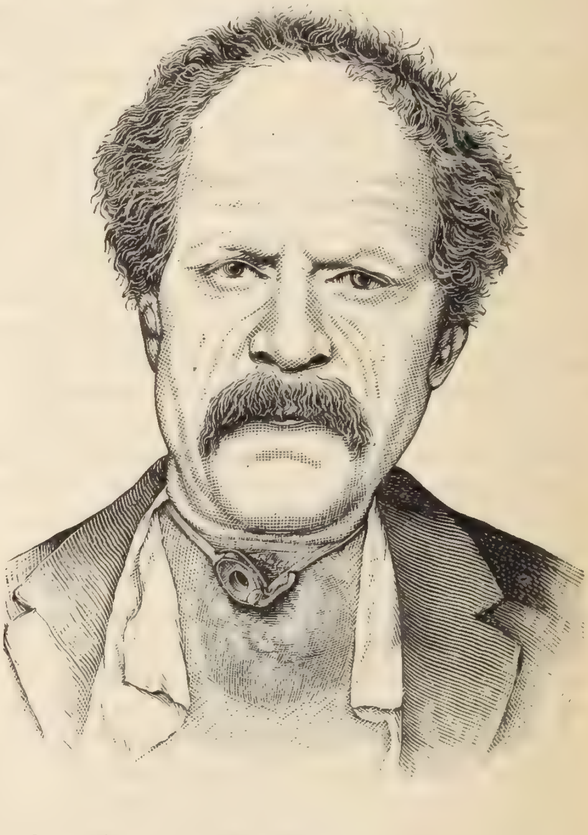
I have the honor to present to you two cases of interest observed in my clinic of laryngology at the Lariboisière Hospital.

The first case is that of cancer of the larynx in a male patient, a workman, fifty-six years of age; but it is not for the disease itself that I present the case, but for a special point of therapeutical interest.

Tracheotomy was performed under urgent circumstances in November, 1887.

When the patient first came under observation the disease was limited to the left cord, but later, after the operation of tracheotomy, the right cord also became involved, and for two or three weeks during this period many hæmorrhages occurred. Hæmorrhages now also occur from time to time.

A thrill is felt in the course of the right carotid artery.



About three months ago there appeared around the wound a tumor, very hard in consistence and red in color. The size of the tumor increased until it became as large as an orange. An ulceration then appeared on its apex, and it presented the characteristic appearances of carcinoma in the ulcerating stage.

The cannula now was insufficiently long, was frequently getting out of place, and the patient suffered from a continual dyspnœa. None of the cannulæ available to me were sufficiently long.

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* Presented at the tenth annual congress of the American Laryngological Association.

I therefore, in consequence of the continuous and distressing dyspnœa, presented the patient to Dr. Berger, the surgeon of the hospital, requesting resection of the tumor to be made; but this operation, however, was declined.

I had now to resort to some expediency to obtain a cannula of sufficient length, which could be easily introduced. Such an instrument could not be entirely rigid, as then its introduction would be impossible.

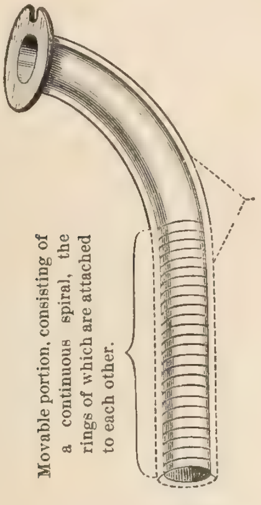
M. Mathieu, of Paris, by my instructions, succeeded, after many attempts, in making for me a cannula the first part of which is rigid, while the lower two thirds are movable. The movable part consists of a continuous spiral, the rings of which are attached to each other. The inner cannula resembles the outer one in this respect.

For introducing the outer cannula I made use of a rubber bougie as a guide, the bougie projecting slightly beyond the end of the cannula. In spite of the irregularities of the passage, the introduction of the cannula was easy.

The inner cannula is extracted with facility for purposes of cleaning.

The patient has been wearing the cannula now for six weeks, and is able to breathe quite freely. A point of great interest also in this instrument is that it always remains *in situ* when the strings which fasten it around the neck are unloosened, thus differing from the ordinary cannulæ. The cannula is made of silver.

I present to you a photograph of the patient and a drawing of the cannula.


Movable portion, consisting of a continuous spiral, the rings of which are attached to each other.

Tracheal cannula (half size).

*Buccal Perforation opening into the Maxillary Antrum.*—The other case is that of a workwoman about thirty years of age. This patient came to my clinic in consequence of a large perforation situated at the left side of the hard palate in a position corresponding to several of the molar teeth. Here three or four teeth have disappeared, leaving a large sinus, the borders of which are rounded and smooth, and show no signs of any ulceration. This sinus, into which I can introduce the end of my little finger, opens into the cavity of the maxillary antrum, which is of about the size of a small nut, with irregular walls covered with white mucus. The cavity was easily illuminated by the Drummond light for the purpose of inspection. A probe was easily passed through it into the corresponding side of the nose and could be seen in the middle meatus. The patient complains of fluid passing into the nose when she is drinking.

This condition, which is very curious, is probably the consequence of a localized necrosis in this situation, coincident probably with syphilis; but no trace of this disease was found on this first examination.

If indicated, a specific treatment will be given, but the condition above alluded to is certainly irremediable. As a local measure, however, I propose the use of a movable apparatus to prevent the entrance of food into the cavity during meals.

I am very glad to have observed these two very interesting cases. The first one is very remarkable in that it necessitated the construction of a difficult apparatus indispensable for the preservation of life. The second case is a very rare one indeed, and I believe that it is almost unique.

# PUERPERAL PYÆMIA.

By CHARLES H. RICHMOND, M. D.,
LIVONIA, N. Y.

My experience in puerperal pyæmia comprises three cases, briefly described as follows:

The first occurred about twelve or thirteen years ago in a woman, about forty years old, following the third confinement, which was normal in every way. The second occurred eight or nine years ago, after an abortion at about three months, in a woman about thirty years old. She had had four children previously. The third followed a difficult second labor (October, 1887) in a woman aged thirty, of stout build. Her first labor was exceedingly difficult. The children in both labors were very large and were extracted by the employment of considerable force; both are living. No injury to the mother was apparent beyond slight laceration of the perinæum at the first labor. Antiseptic precautions were followed.

Leucocythæmia was apparent in all before confinement, but it was more especially marked in the two cases confined at full term. The first unfavorable symptom in either of the cases was a chill from two to four days after delivery, attended with a high temperature followed by sweating. A chill varying in intensity recurred at irregular intervals, varying from one to five days, seldom shorter than two and longer than four days. The temperature at the close of or soon after the chill would vary from 102° to 105° F. or higher. During the interval it would usually range between 100° and 101°, but a normal temperature was not uncommon at times. No pelvic or abdominal inflammation could be detected in either of the cases, the discharges were normal, involution seemed to progress normally, and no source of septic infection was found. Among the concomitant conditions which developed during the progress of the cases were circumscribed pneumonia, occasional attacks of difficult respiration, and, later, evidences of cerebral embolism, in two of the cases attended with hemiplegia. There was in all the cases slight swelling of the lower extremities, and the patients became very anæmic. The intervals between the chills were sometimes so long, and the patient seemed so comfortable, as to almost create a hope that there would be no return. One patient (the first) died from exhaustion after about four weeks' illness, the second from cerebral symptoms with exhaustion in seven weeks, and the third died in about six weeks suddenly, as if by cardiac embolus.

I was unable to obtain an autopsy except in the last case, and was allowed to examine only the abdominal and pelvic cavities, as I wished especially to examine the inferior vena cava. There were no evidences of abdominal or pelvic disease. The uterus had undergone involution; its cavity was healthy, as also were the tubes and ovaries. The inferior vena cava contained a degenerated blood-clot.

It would seem that thrombosis of the inferior vena cava is identical in nature with phlegmasia dolens, differing only in location and size of the clots. The greater frequency of thrombosis of the veins of the extremities may be due to the natural impediment to the circulation through those parts and in the pelvis, and impediments due to certain inflammatory conditions in cases in which the condition of the blood is favorable to clotting. It sometimes follows peritonitis in both males and females. When, however, there is an unusual development of white corpuscles in the blood during pregnancy, the tendency to thrombosis may be so great as to occur in the larger vessels. The size of the clot, when occurring in the vena cava, repeatedly furnishes fresh supplies of poison in such quantity as to preclude the possibility of recovery.

# INTUBATION OF THE LARYNX
## IN DIPHTHERITIC CROUP;
### ANALYSIS OF TWO HUNDRED CASES OPERATED UPON.*

By DILLON BROWN, M. D.

In determining the value of any operation in the treatment of diphtheritic or membranous laryngitis it is necessary to give not only the number of operations and their result, but also the whole number of such cases seen, whether operated upon or not. This is what I shall aim to do in presenting the following report of my own cases treated by intubation of the larynx.

Again, to compare the value of any two operations in the treatment of this disease, it is not sufficient to state simply the number of recoveries following each operation. It is essential to form some idea of the character of each case and compare the result only in similar cases. You must take into consideration the age, the duration, and the amount of laryngeal obstruction, the presence or absence of pharyngeal or post-nasal diphtheria and its duration, the condition of the kidneys, and the presence or absence of sepsis or other complications, as pneumonia, measles, scarlet fever, whooping-cough, etc.

It will be my endeavor in the following report to state the facts correctly and to omit nothing. All my cases except one were seen in consultation with one or more physicians, and I have placed opposite each case the date of the operation and the name of the physician by whose courtesy I was enabled to operate. Nearly one half of the patients were either absolutely hopeless or under three years of age. I have not refused to operate in a single case of advanced laryngeal obstruction, however hopeless it might seem; and, again, I have never operated until the stenosis was extreme. Not a single patient died during the operation. On the primary introduction of the tube, membrane was pushed down in several instances, but every time it was either coughed out through the tube or it followed the tube on its withdrawal. In no case was membrane pushed down in sufficient quantity to produce fatal obstruction during the operation.

If those physicians who oppose intubation in favor of tracheotomy and who have operated sufficiently often to make their opinion of any value, will give us a *complete* report of their cases—including all the cases seen, whether operated upon or not—it would be of the greatest value in comparing these operations, and would quickly consign tracheotomy to the background, for use only in special cases.

I have operated upon two hundred patients with diphtheritic or membranous laryngitis, of which fifty-four, or twenty-seven per cent., recovered:

Males, 87; females, 113. Average age, 3 years 5 months; of those that died, 3 years 2 months; of those that recovered, 4 years 5 months.

Urine contained albumin in 116 cases, no albumin in 15 cases, and was not examined in 69 cases.

In fatal cases, average length of life after intubation was 2 days 23 hours; in cases of recovery, average time of tube in larynx was 5 days 10 hours.

In addition to the following cases, given in detail, I have seen or been consulted in regard to twenty-three cases of laryngeal diphtheria, in all of which the patients recovered without operation—four at the New York Foundling Asylum, one at the Vanderbilt Clinic, two in my own practice, and one with each of the following physicians: Dr. O'Dwyer, Dr. Reid and Dr. Burke; Dr. O'Dwyer, Dr. O'Connell and Dr. Flynn; Dr. G. V. Hann, Dr. H. D. Chapin, Dr. J. H. Seymour, Dr. Daniel Cook, Dr. R. B. Talbot, Dr. B. C. McIntyre, Dr. J. Lewengood, Dr. J. A. Roth, Dr. Charles Roth, Dr. E. J. Ware, Dr. J. Lewis Smith, Dr. A. H. Smith, and Dr. Louis Feigenblatt.

Four patients refused operation—one seen with Dr. J. Lewis Smith, one with Dr. R. M. McAdoo, one with Dr. D. L. Hubbard, and one with Dr. Thomas Kelly. All died. The refusal in two of these cases was due to previous unskillful and unsuccessful attempts being made by other operators (not the attending physicians, whose names I give).

In nine cases the patient had died before my arrival, one with each of the following physicians: Dr. F. A. Manning, Dr. J. L. Smith, Dr. F. C. Fuller, Dr. G. V. Hann, Dr. J. A. Roth, Dr. D. E. O'Neil, Dr. A. E. M. Purdy, Dr. Wooster Beach, and Dr. G. D. Hays.

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* Read before the Section in Pædiatrics of the New York Academy of Medicine, October 24, 1888.

| Date. | No. | By courtesy of | Sex. | Age. | DURATION BEFORE INTUBATION OF | | Urine. | Cause of death. | Complications before intubation. | Result. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Croup. | Pharyngeal diphtheria. | | | | |
| 1885.<br>July. | 1 | At the New York Foundling Asylum, and by courtesy of the visiting physicians, Dr. Joseph O'Dwyer, Dr. J. Lewis Smith, Dr. C. C. Lee, and Dr. J. J. Reid. These cases are included in Dr. O'Dwyer's hospital cases. | M. | 3 yr. 3 mo. | 2 d. | 5 d. | Albumin. | ...... | ...... | Recovered; wore tube 14 d. |
| Oct. | 2 | | M. | 16 mo. | 1 d. | 4 d. | “ | Extension to bronchi. | ...... | Died 1 d. after intubation. |
| Nov. | 3 | | M. | 1 yr. 11 mo. | 1 d. | 8 d. | “ | Double broncho-pneumonia. | Rickets. | Died 6 d. 16 hrs. after intubation. |
| “ | 4 | | F. | 3 yr. | 6 hrs. | .... | “ | Double broncho-pneumonia. | ...... | Died 2½ d. after intubation. |
| “ | 5 | | M. | 3 yr. 4 mo. | Sev. d. | 4 wks. | “ | Tuberculosis. | Tuberculosis. | Died 8 d. “ “ |
| Dec. | 6 | | F. | 3 yr. 4 mo. | 1 d. | Present. | ...... | Extension to bronchi. | ...... | Died 2½ d. “ “ |
| “ | 7 | | F. | 3 yr. 6 mo. | 3 d. | 2 d. | Albumin. | “ “ | Pertussis; pneumonia. | Died 38 hrs. “ “ |
| “ | 8 | | F. | 3 yr. 7 mo. | 1 d. | 3 d. | “ | ...... | ...... | Recovered; wore tube 3 d. 15 hrs. |
| “ | 9 | | F. | 11 mo. | ½ d. | 1 d. | “ | Swelling over top of tube. | ...... | Died 14½ hrs. after intubation. |
| “ | 10 | | F. | 3 yr. 3 mo. | 1 d. | None. | “ | Extension to bronchi. | ...... | Died 3 d. “ “ |
| 1886.<br>Jan. | 11 | | F. | 4 yr. 8 mo. | 2 d. | 2 d. | “ | ...... | Pertussis. | Recovered; wore tube 2½ d. |
| “ | 12 | | F. | 1 yr. | 1 d. | None. | Not exam. | Extension to bronchi. | Varicella. | Died 18 h. after intubation. |
| “ | 13 | | F. | 3 yr. 9 mo. | 1 d. | 11 d. | ...... | ...... | Pertussis. | Recovered; wore tube 39 hrs. |
| “ | 14 | | F. | 3 yr. 5 mo. | 1 d. | 1 d. | None. | Extension to bronchi. | ...... | Died 21½ hrs. after intubation. |
| “ | 15 | | F. | 5 mo. | 2 d. | 2 d. | ...... | “ “ | ...... | Died 21½ hrs. “ “ |
| “ | 16 | | F. | 4 yr. 6 mo. | ½ d. | None. | Not exam. | Exhaustion. | Congen. syphil. | Died 12 hrs. “ “ |
| “ | 17 | | F. | 3 yr. 4 mo. | 1 d. | 6 d. | “ | Extension to bronchi. | Pertussis. | Died 2 d. “ “ |
| Feb. | 18 | | F. | 2 yr. 2 mo. | 1 d. | 1 d. | Albumin. | ...... | ...... | Recovered; wore tube 12 d. |
| “ | 19 | | M. | 5½ mo. | 1 d. | 1 d. | “ | Double pneumonia. | ...... | Died 1 d. after intubation. |
| March. | 20 | | F. | 7 mo. | 6 hrs. | ...... | Not exam. | Extension to bronchi. | Varicella. | Died 2 d. “ “ |
| “ | 21 | | M. | 3 yr. 6 mo. | 4 d. | 5 d. | Albumin. | ...... | ...... | Recovered; wore tube 4 d. 2 hrs. |
| “ | 22 | | M. | 3 yr. | 2 d. | 2 d. | “ | Extension to bronchi. | ...... | Died 2 d. 14 hrs. after intubation. |
| April. | 23 | | F. | 3 yr. | 1 d. | 1 d. | Not exam. | “ “ | Varicella. | Died 2 d. “ “ |
| “ | 24 | | M. | 8 mo. | 1 d. | 2 d. | “ | Pneumonia. | ...... | Died 9 hrs. “ “ |
| May. | 25 | | M. | 2 yr. | 1 d. | 1 d. | “ | Extension to bronchi. | ...... | Died 24 hrs. “ “ |
| March. | 26 | Dr. C. C. Lee. | F. | 18 mo. | 10 hrs. | None. | “ | “ “ | ...... | Died 7 hrs. “ “ |
| “ | 27 | Dr. Cocks and Dr. Van Fleet. | F. | 8 yr. | 18 hrs. | 4 d. | Albumin. | Exhaustion. | ...... | Died 4 d. “ “ |
| May. | 28 | Dr. M. M. Dunton. | M. | 13 mo. | 4 d. | Sev. days. | “ | Nephritis. | ...... | Died 16 d. “ “ |
| June. | 29 | Dr. J. Lewis Smith. | F. | 2 yr. 8 mo. | 2 d. | 9 d. | “ | Extension to bronchi. | ...... | Died 2 d. “ “ |
| “ | 30 | Dr. J. J. Griffiths. | M. | 2 yr. 4 mo. | 1 d. | None. | “ | Broncho-pneumonia. | ...... | Died 2 d. 21 h. “ “ |
| “ | 31 | Dr. F. A. Manning. | M. | 6 yr. | 3 d. | 4 d. | “ | Suppression of urine. | ...... | Died 5 d. “ “ |
| “ | 32 | Dr. S. J. McNutt. | F. | 2 yr. 6 mo. | 1 d. | Sev. days. | Not exam. | Extension to bronchi. | ...... | Died 1½ d. “ “ |
| July. | 33 | Dr. J. J. Griffiths. | M. | 4 yr. | 36 hrs. | None. | Albumin. | “ “ | ...... | Died 1 d. 12½ hrs. “ “ |
| “ | 34 | Dr. Sprague. | M. | 4 yr. | 2 d. | Sev. days. | “ | ...... | ...... | Recovered; wore tube 5½ d. |
| “ | 35 | Dr. L. L. Bradshaw | M. | 3 yr. | 1 d. | None. | Not exam. | Exhaustion. | ...... | Died 1 d. 6½ hrs. after intubation. |
| Aug. | 36 | Dr. J. A. McLoughlin. | F. | 2 yr. 9 mo. | 1 d. | 7 d. | Albumin. | Extension to bronchi. | ...... | Died 3 d. “ “ |
| “ | 37 | Dr. J. W. Flynn and Dr. L. L. Bradshaw. | F. | 4 yr. 6 mo. | 32 hrs. | 4 d. | “ | “ “ | ...... | Died 4 d. “ “ |
| Sept. | 38 | Dr. J. Lewis Smith. | M. | 21 mo. | 2 d. | 4 d. | “ | “ “ | ...... | Died 1 d. 4½ hrs. “ “ |
| “ | 39 | Dr. J. L. Smith and Dr. W. E. Forest. | M. | 4 yr. 6 mo. | 9 d. | 6 d. | “ | ...... | ...... | Recovered; wore tube 4 d. |
| “ | 40 | Dr. W. E. Forest. | M. | 8 yr. 1 mo. | 3 d. | 2 d. | “ | Extension to bronchi. | ...... | Died 7 d. after intubation. |
| Oct. | 41 | Dr. W. K. Simpson and Dr. R. M. McAdoo. | F. | 7 yr. | .... | Present. | ...... | “ “ | ...... | Died 6 d. “ “ |
| “ | 42 | Dr. J. B. Cosby. | F. | 2 yr. 6 mo. | 5 d. | 7 d. | Albumin. | Uræmic convulsions. | ...... | Died 1 d. 9 hrs. after intubation. |
| “ | 43 | Dr. Charles Roth and Dr. J. A. Roth. | F. | 6 yr. | 4 d. | 6 d. | “ | Suppression of urine. | ...... | Died 2 d. 1 hr. “ “ |
| “ | 44 | Dr. J. A. Moore. | M. | 2 yr. 2 mo. | 1 d. | 10 d. | None. | Extension to bronchi. | ...... | Died 7 d. “ “ |
| “ | 45 | Dr. Beyea. | F. | 4 yr. 2 mo. | 1 d. | 3 d. | Albumin. | “ “ | ...... | Died 2 d. 10 hrs. “ “ |
| Nov. | 46 | Dr. Bradshaw and Dr. Simpson. | F. | 3 yr. | 4 d. | 7 d. | “ | “ “ | ...... | Died 4 d. “ “ |
| “ | 47 | Dr. Bradshaw and Dr. Simpson. | M. | 1 yr. | 5 d. | 7 d. | Not exam. | “ “ | ...... | Died 5 d. “ “ |
| “ | 48 | Dr. J. L. Smith and Dr. H. Cheeseman. | M. | 2 yr. 7 mo. | 7 d. | 1 d. | Albumin. | Convulsions. | ...... | Died 1 d. 17 hrs. “ “ |
| Dec. | 49 | Dr. C. L. Lindley. | M. | 5 yr. | ½ d. | 14 d. | None. | Exhaustion. | ...... | Died 26 hrs. “ “ |
| “ | 50 | Dr. W. A. Hawes. | M. | 3 yr. 2 mo. | 5 d. | 7 d. | Albumin. | ...... | ...... | Recovered; wore tube 4 d. 5 hrs. |
| “ | 51 | Dr. R. B. Burton. | F. | 2 yr. 1 mo. | 27 hrs. | 4 d. | “ | Convulsions. | ...... | Died 19 hrs. after intubation. |
| “ | 52 | Dr. J. Lewis Smith. | M. | 13 mo. | 4 d. | None. | “ | “ | Measles. | Died 2 d. 2½ hrs. after intubation. |
| “ | 53 | Dr. M. M. Dunton. | F. | 2 yr. | 3 d. | Sev. days. | “ | Pushing down membrane. | ...... | Died 18 d. “ “ |
| “ | 54 | Dr. A. Hodgeman. | F. | 3 yr. 6 mo. | 18 hrs. | 4 d. | “ | Sepsis. | Sepsis. | Died 12 hrs. “ “ |
| “ | 55 | Dr. W. K. Simpson and Dr. W. R. Birdsell. | F. | 5 yr. | 3 d. | None. | “ | Exhaustion. | ...... | Died 3 d. “ “ |
| 1887.<br>Jan. | 56 | Dr. Daniel Cook. | F. | 2 yr. | 2 d. | 1 d. | No albu'n. | ...... | ...... | Recovered; wore tube 3 d. |
| “ | 57 | Drs. F. and H. B. Sprague. | F. | 4 yr. | 3 d. | 7 d. | “ | Extension to bronchi. | Measles. | Died 5 d. 17 hrs. after intubation. |
| “ | 58 | Dr. Wooster Beach. | M. | 2 yr. | ½ d. | ...... | “ | “ “ | “ | Died 2 d. “ “ |
| “ | 59 | Dr. W. A. Hawes. | F. | 17 mo. | 1 d. | Sev. days. | Albumin. | Convulsions. | “ | Died 1 d. 6 hrs. “ “ |
| “ | 60 | Dr. W. B. Wallace. | F. | 5 yr. | 1 d. | None. | Not exam. | Extension to bronchi. | “ | Died 19 hrs. “ “ |
| “ | 61 | Dr. Alexander Hadden. | M. | 5 yr. 4 mo. | 8 d. | 2 d. | Albumin. | Pneumonia. | “ | Died 1 d. 19 hrs. “ “ |
| “ | 62 | Dr. Fred. Sprague. | M. | 13 mo. | 2 d. | Sev. days. | Not exam. | Extension to bronchi. | “ | Died 1 d. 1 hr. “ “ |
| “ | 63 | Dr. N. S. Wescott. | M. | 19 mo. | 8 d. | ...... | Albumin. | ...... | “ | Recovered; wore tube 4 d. |
| “ | 64 | Dr. J. Lewis Smith. | F. | 20 mo. | 1 d. | 1 d. | Not exam. | Extension to bronchi. | ...... | Died 2 d. 1 hr. after intubation. |
| “ | 65 | Dr. J. A. McCreery. | M. | 19 mo. | 1 d. | 7 d. | “ | “ “ | ...... | Died 8 hrs. “ “ |
| Feb. | 66 | Dr. Daniel Lewis. | M. | 3 yr. 2 mo. | 16 hrs. | Convales't. | Albumin. | ...... | ...... | Recovered; wore tube 6½ d. |
| “ | 67 | Dr. Hobart Cheesman. | F. | 23 mo. | 1 d. | 4 d. | “ | Sepsis. | Sepsis. | Died 1 d. after intubation. |
| “ | 68 | Dr. J. L. Smith and Dr. J. A. Roth. | F. | 22 mo. | 2 d. | Sev. days. | “ | Extension to bronchi. | ...... | Died 1 d. 4 hrs. after intubation. |
| “ | 69 | Dr. G. V. Hann. | M. | 14 mo. | 36 hrs. | Sev. days. | “ | General paralysis. | ...... | Died 28 d. “ “ |
| “ | 70 | Dr. J. A. Roth. | M. | 2 yr. 9 mo. | 1½ d. | 10 d. | Not exam. | Extension to bronchi. | Measles. | Died 1 d. 6 hrs. “ “ |
| “ | 71 | Dr. J. A. Roth. | M. | 4 yr. | 2 d. | 6 d. | “ | “ “ | ...... | Died 1½ d. “ “ |
| March. | 72 | Dr. Warren Schoonover. | M. | 2 yr. 9 mo. | 2 d. | Sev. days. | Albumin. | ...... | ...... | Recovered; wore tube 6 d. |
| “ | 73 | Dr. J. A. McCreery. | M. | 5 yr. | 36 hrs. | 4 d. | Not exam. | Extension to bronchi. | ...... | Died 1 d. after intubation. |
| “ | 74 | Dr. Charles Roth. | M. | 5 yr. | 3 d. | Sev. days. | No albu'n. | ...... | ...... | Recovered; wore tube 4 d. |
| “ | 75 | Dr. W. P. Langworthy. | M. | 2 yr. 5 mo. | 4 d. | None. | Not exam. | Extension to bronchi. | ...... | Died 1 d. after intubation. |
| “ | 76 | | M. | 3 yr. | 4 d. | 7 d. | Albumin. | ...... | ...... | Recovered; wore tube 2 d. |
| “ | 77 | Dr. W. A. Hawes. | M. | 4 yr. | 2½ d. | 8 d. | “ | Pneumonia. | ...... | Died 10 d. after intubation. |
| “ | 78 | Dr. J. Lewis Smith. | F. | 3 yr. 9 mo. | 2 d. | 7 d. | “ | Sepsis. | ...... | Died 2 d. “ “ |
| April. | 79 | Dr. J. A. Roth. | F. | 20 mo. | 2 d. | 2 d. | Not exam. | Pneumonia. | ...... | Died 2 d. 6 hrs. after intubation. |
| “ | 80 | Dr. J. L. Smith and Dr. F. I. Drisbrow. | M. | 5 yr. | 2 d. | 4 d. | Albumin. | Sepsis. | ...... | Died 7 d. 18 hrs. “ “ |
| “ | 81 | Dr. J. L. Smith. | M. | 6 yr. | 4 d. | 7 d. | “ | ...... | ...... | Recovered; wore tube 5 d. |
| “ | 82 | Dr. C. E. Nammack. | F. | 16 mo. | 1 d. | 3½ d. | Not exam. | Sepsis. | ...... | Died 19 hrs. after intubation. |
| “ | 83 | Dr. J. A. Roth. | F. | 4 yr. 6 mo. | 2 d. | ...... | “ | Extension to bronchi. | Sepsis. | Died 1 d. “ “ |
| May. | 84 | Dr. Hugart. | F. | 3 yr. 6 mo. | 2 d. | 7 d. | Albumin. | ...... | ...... | Recovered; wore tube 6 d. |
| “ | 85 | Dr. J. L Smith and Dr. A. Rowe. | M. | 6 yr. | 4 d. | 7 d. | “ | ...... | ...... | Recovered; wore tube 5 d. |
| “ | 86 | Dr George V. Hann. | F. | 10 mo. | 5 d. | Sev. days. | Not exam. | Sepsis. | Sepsis. | Died 2½ hrs. after intubation. |
| “ | 87 | Dr. B. G. Cooke. | F. | 2 yr. | 2 d. | Sev. days. | “ | Extension to bronchi. | Pertussis. | Died 2 d. 5 hrs. after intubation. |
| “ | 88 | Dr. Alvah Rowe. | F. | 3½ yr. | 2 d. | Present. | Albumin. | ...... | ...... | Recovered; tube removed in 6 d. |

| Date. | No. | By courtesy of | Sex. | Age. | DURATION BEFORE INTUBATION OF | | Urine. | Cause of death. | Complications before intubation. | Result. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Croup. | Pharyngeal diphtheria. | | | | |
| 1887.<br>June. | 89 | Dr. Freudenthal and Dr. Rottenberg. | F. | 3 yr. 3 mo. | 4 d. | 6 d. | Not exam. | Extension to bronchi. | ........ | Died 2 d. 21 hrs. after intubation. |
| “ | 90 | Dr. J. J. Cosgrove and Dr. C. E. Bruce. | M. | 2 yr. 1 mo. | 4 d. | Sev. days. | Albumin. | “ “ | ........ | Died 1 d. 9 hrs. “ “ |
| “ | 91 | Dr. M. M. Dunton. | M. | 5½ yr. | 4 d. | 5 d. | “ | Exhaustion. | ........ | Died 5 d. 20 hrs. “ “ |
| “ | 92 | Dr. G. V. Hann. | F. | 4 yr. | 3 d. | Sev. days. | “ | Extension to bronchi. | ........ | Died 2 d. 13 hrs. “ “ |
| July. | 93 | Dr. Warren Schoonover. | F. | 4½ yr. | 4 d. | 7 d. | “ | Exhaustion. | ........ | Died 2 d. 14 hrs. “ “ |
| “ | 94 | Dr. J. H. Brandth. | F. | 3½ yr. | 2 d. | 7 d. | Not exam. | Extension to bronchi. | ........ | Died 1 d. 11 hrs. “ “ |
| “ | 95 | Dr. J. Lewis Smith. | M. | 7 yr. | 2 d. | Present. | Albumin. | ........ | Pertussis. | Recovered ; tube removed in 4 d. |
| “ | 96 | Dr. J. A. Roth and Dr. Zabriskie. | F. | 4 yr. | 2 d. | 7 d. | “ | ........ | ........ | Recovered ; tube removed in 6 d. |
| “ | 97 | Dr. George D. Spor. | M. | 2½ yr. | 1 d. | Sev. days. | “ | Diphtheritic bronchitis and pneumonia. | ........ | Died 1 d. 17 hrs. after intubation. |
| “ | 98 | Dr. George D. Spor. | M. | 17½ mo. | 2 d. | Sev. days. | “ | ........ | ........ | Recovered ; wore tube 14 d. |
| “ | 99 | Dr. G. V. Hann. | F. | 2½ yr. | 4 d. | 7 d. | “ | Sudden heart paralysis. | ........ | Died 1½ d. after intubation. |
| Aug. | 100 | Dr. Warren Schoonover. | F. | 7 yr. | 5 d. | 7 d. | “ | Exhaustion. | ........ | Died 7 d. 12 hrs. after intubation. |
| “ | 101 | Dr. J. Lewis Smith. | F. | 3 yr. | 3 d. | None. | Not exam. | Extension to bronchi. | Sepsis. | Died 1 d. “ “ |
| “ | 102 | Dr. G. V. Hann. | F. | 3 yr. | 12 hrs. | Present. | “ | Sepsis. | Sepsis. | Died 1½ d. “ “ |
| Sept. | 103 | Dr. Warren Schoonover. | F. | 17 mo. | 7 d. | Present. | Albumin. | Extension to bronchi and pneumonia. | ........ | Died 3 d. 9 hrs. “ “ |
| “ | 104 | Dr. Alexander Hugart. | F. | 18 mo. | 4 d. | None. | “ | Extension to bronchi. | ........ | Died 4 d. 14 hrs. “ “ |
| “ | 105 | Dr. J. Lewis Smith. | M. | 23 mo. | 3 d. | Present. | “ | “ “ | ........ | Died 3 d. “ “ |
| “ | 106 | Dr. J. Lewis Smith. | F. | 6 yr. | 7 d. | Present. | Not exam. | ........ | ........ | Recovered ; tube removed in 2½ d. |
| “ | 107 | Dr. Bernard Hughes. | M. | 2½ yr. | 1 d. | Present. | “ | Pneumonia. | ........ | Died 2 d. 5 hrs. after intubation. |
| “ | 108 | Dr. George D. Spor. | F. | 2¼ yr. | 2 d. | 3 d. | Albumin. | Sepsis. | Sepsis. | Died 2 d. “ “ |
| “ | 109 | Dr. Bernard Hughes. | F. | 5 yr. | 1 d. | 5 d. | “ | ........ | ........ | Recovered ; tube removed in 6 d. |
| “ | 110 | Dr. G. E. Hubbard. | M. | 3¼ yr. | 1½ d. | Sev. days. | “ | ........ | ........ | Recovered ; tube removed in 2½ d. |
| “ | 111 | Dr. Joseph McLoughlin. | F. | 23 mo. | 4 d. | ........ | Not exam. | Extension and sepsis. | Sepsis. | Died 1 d. 2 hrs. after intubation. |
| “ | 112 | Dr. J. L. Smith and Dr. S. D. Hubbard. | M. | 13 yr. | 2 d. | 5 d. | Albumin. | Sepsis ; exhaustion. | Sepsis. | Died 2 d. 19 hrs. “ “ |
| Oct. | 113 | Dr. G. V. Hann. | F. | 3 yr. 6 mo. | 12 hrs. | 9 d. | “ | Sudden heart paralysis. | Sepsis. | Died 4 hrs. “ “ |
| “ | 114 | Dr. W. J. Gaudineer. | F. | 5 yr. | 4 d. | None. | Not exam. | Convulsions. | ........ | Died 1 d. 7 hrs. “ “ |
| “ | 115 | Dr. G. V. Hann. | F. | 3 yr. 3 mo. | 2 d. | 4 d. | Albumin. | Sepsis. | ........ | Died 1 d. 14 hrs. “ “ |
| “ | 116 | Dr. Welch and Dr. Cossaart. | F. | 3 yr. | 2 d. | 2 d. | Not exam. | Extension to bronchi. | ........ | Died 4 d. 16 hrs. “ “ |
| “ | 117 | Dr. G. V. Hann. | F. | 4 yr. 2 mo. | 2 d. | 7 d. | Albumin. | Sepsis. | ........ | Died 3 d. “ “ |
| “ | 118 | Dr. G. M. Stoeckel. | M. | 6 yr. | 1 d. | None. | “ | ........ | ........ | Recovered ; wore tube 4 d. |
| “ | 119 | Dr. G. V. Hann. | M. | 2 yr. 10 mo. | 3 d. | 2 d. | “ | Pneumonia. | ........ | Died 2½ d. after intubation. |
| Nov. | 120 | Dr. E. M. Moffett. | M. | 2 yr. | 1 d. | 1 d. | Not exam. | Extension to bronchi. | ........ | Died 9 hrs. “ “ |
| “ | 121 | Dr. C. J. Musgrave. | F. | 14 mo. | 1 d. | 1 d. | “ | Broncho-pneumonia. | Broncho - pneumonia. | Died 5 hrs. “ “ |
| “ | 122 | Dr. Musgrave and Dr. Vandegrift. | F. | 3 yr. 3 mo. | 7 d. | Present. | “ | Extension to bronchi. | ........ | Died 20 hrs. “ “ |
| “ | 123 | Dr. J. A. McLoughlin. | F. | 3 yr. 4 mo. | 13 hrs. | None. | No albu'n. | Pneumonia. | ........ | Died 2 d. 14 hrs. after intubation. |
| “ | 124 | Dr. Daniel Lewis. | F. | 3 yr. | 2½ d. | None. | Not exam. | Exhaustion. | Sepsis. | Died 14 hrs. “ “ |
| “ | 125 | Dr. J. Lewis Smith. | F. | 5 yr. | 3 d. | 7 d. | Albumin. | Exhaustion and sepsis. | ........ | Died 7 d. “ “ |
| “ | 126 | Dr. Lassar Stern. | M. | 4 yr. | 2½ d. | Present. | “ | Extension to bronchi. | ........ | Died 2 d. “ “ |
| Dec. | 127 | Dr. J. L. Smith and Dr. T. B. Columbia. | F. | 4 yr. | 1 d. | Present. | Not exam. | Extension to bronchi. | ........ | Died 18 hrs. “ “ |
| “ | 128 | Dr. G. A. Hayunga. | F. | 1 yr. 8 mo. | 2 d. | 2 d. | “ | Extens'n and pneumon. | ........ | Died 12 hrs. “ “ |
| “ | 129 | Dr. J. A. Roth. | M. | 6 yr. | 2 d. | 7 d. | Albumin. | ........ | ........ | Recovered ; tube removed in 5½ d. |
| “ | 130 | Dr. T. B. Columbia. | F. | 2 yr. | 2 d. | 7 d. | Not exam. | Exhaust'n and nephritis. | ........ | Died 12 hrs. after intubation. |
| “ | 131 | Dr. G. E. Hubbard. | M. | 7 yr. | 1 d. | 3 d. | Albumin. | Sepsis. | Sepsis. | Died 5 hrs. “ “ |
| “ | 132 | Dr. W. A. Hawes. | F. | 2 yr. | 2 d. | 3 d. | ........ | Extension to bronchi. | ........ | Died 2½ d. “ “ |
| “ | 133 | Dr. Alexander Hadden. | M. | 4 yr. 6 mo. | 3 d. | None. | ........ | ........ | ........ | Recovered ; tube removed in 5 d. |
| “ | 134 | Dr. E. Winternitz. | F. | 4 yr. | 3 d. | 4 d. | Not exam. | Extension to bronchi. | ........ | Died 2 d. after intubation. |
| “ | 135 | Dr. J. Lewis Smith, Jr. | M. | 11 mo. | 2 d. | Present. | “ | Sepsis. | Sepsis. | Died 1 d. “ “ |
| “ | 136 | Dr. B. G. Cooke. | F. | 2 yr. | 2 d. | 6 d. | “ | Extens'n and pneumon. | ........ | Died 2 d. “ “ |
| 1888.<br>Jan. | 137 | Dr. Daniel Cook. | M. | 6 yr. 8 mo. | 3 d. | 5 d. | Albumin. | ........ | ........ | Recovered ; tube removed in 2½ d. |
| “ | 138 | Dr. Daniel Cook. | F. | 2 yr. 1 mo. | 2 d. | None. | Not exam. | Convulsions. | Convulsions (uræmic). | Died 3 hrs. after intubation. |
| “ | 139 | Dr. J. A. McLoughlin. | F. | 3 yr. 2 mo. | 2 d. | Present. | No albu'n. | Asphyxia. | ........ | Died 4 d. after removal of tube and 10 d. after intubation. |
| “ | 140 | Dr. G. D. Spor. | F. | 10 yr. 6 mo. | 2½ d. | Present. | Albumin. | ........ | ........ | Recovered ; wore tube 3 d. |
| “ | 141 | Dr. G. D. Hays. | F. | 16 mo. | 2 d. | 8 d. | “ | Extension to bronchi. | ........ | Died 7 d. after intubation. |
| “ | 142 | Dr. J. Lewis Smith. | F. | 5 yr. 10 mo. | 1½ d. | 7 d. | “ | ........ | ........ | Recovered; tube removed in 6 d. 15 hrs. |
| “ | 143 | Dr. T. B. Columbia. | F. | 3 yr. | 7 d. | None. | Not exam. | Extens'n and pneumon. | ........ | Died 2½ d. after intubation. |
| “ | 144 | Dr. J. Lewis Smith. | F. | 3 yr. 3 mo. | 2 d. | Present. | Albumin. | ........ | Sepsis. | Recovered ; tube removed in 6 d. |
| Feb. | 145 | Dr. J. R. Cypert. | M. | 6 yr. | 1 d. | 3 d. | No albu'n. | Sudden heart failure. | ........ | Died 1 d. 10 hrs. after intubation. |
| “ | 146 | Dr. W. G. Robinson. | F. | 2 yr. 1 mo. | 1½ d. | Present. | “ | ........ | ........ | Recovered; tube removed in 6 d. 11 hrs. |
| “ | 147 | Dr. J. A. McLoughlin. | M. | 4 yr. | 7 d. | 5 d. | Albumin. | Exhaustion. | ........ | Died 16 h. after intubation. |
| “ | 148 | Dr. G. D. Spor. | M. | 2 yr. 2 mo. | 5 d. | Present. | “ | ........ | ........ | Recovered; tube removed in 6 d. 22 hrs. |
| “ | 149 | Dr. G. V. Hann. | F. | 16 mo. | 1½ d. | None. | “ | Extension to bronchi. | ........ | Died 2 d. after intubation. |
| March. | 150 | Dr. M. J. Fleming. | M. | 2 yr. 8 mo. | 3 d. | None. | “ | ........ | ........ | Recovered ; wore tube 6 d. 5 hrs. |
| “ | 151 | Dr. C. E. Simmons and Dr. W. A. Hawes. | M. | 6 yr. | 4 d. | 1 d. | “ | Sudden heart failure. | Sepsis. | Died 2½ d. after removal of tube and 11 d. 5 h. after intubation. |
| “ | 152 | Dr. W. A. Ewing and Dr. Thomas Kelly. | M. | 7 yr. | 4 d. | 4 d. | “ | ........ | ........ | Recovered ; wore tube 2 d. |
| “ | 153 | Dr. M. T. Bissell. | M. | 3 yr. | .... | ........ | ........ | Double pneumonia. | Pneumonia ; rickets. | Died 4 hrs. after intubation. |
| “ | 154 | Dr. J. R. Cypert. | F. | 3 yr. 3 mo. | 20 hrs. | 7 d. | No albu'n. | ........ | ........ | Recovered; tube removed in 4 d. 20 hrs. |
| “ | 155 | Dr. T. B. Columbia. | F. | 3 yr. | 1 d. | 4 d. | Not exam. | Sepsis and extension. | Sepsis. | Died 12 hrs. after intubation. |
| April. | 156 | Dr. J. H. Brandth. | M. | 5 yr. | 2 d. | Sev. days. | Albumin. | ........ | Pneumonia. | Recovered ; tube removed in 6 d. |
| “ | 157 | Dr. G. M. Stoeckel. | F. | 7 yr. | 5 d. | Present. | “ | ........ | ........ | Recovered; tube removed in 5 d. 22 hrs. |
| “ | 158 | Dr. J. Lewis Smith, Jr. | F. | 2 yr. 5 mo. | 4 d. | Sev. days. | No albu'n. | ........ | ........ | Recovered ; tube removed in 5 d. |
| “ | 159 | Dr. J. A. Roth. | F. | 3 yr. | 2 d. | Present. | Albumin. | ........ | Pneumonia. | Recovered ; tube removed in 5½ d. |
| “ | 160 | Dr. Bernard Hughes. | F. | 3 yr. | 2 d. | Present. | Not exam. | Extension to bronchi. | ........ | Died 36 hrs. after intubation. |
| “ | 161 | Dr. J. Watson Stronach. | F. | 6 yr. | 4 d. | Sev. days. | Albumin. | ........ | ........ | Recovered; tube removed in 8 d. 17 hrs. |
| May. | 162 | Dr. J. R. Cypert. | F. | 2 yr. 6 mo. | 2 d. | None. | “ | ........ | ........ | Recovered; tube removed in 8 d. 18 hrs. |
| “ | 163 | Dr. G. C. H. Meier. | F. | 19 mo. | 2 d. | 3 d. | “ | Pneumonia. | Sepsis. | Died 8½ d. after intubation. |
| “ | 164 | Dr. A. Jacobi and Dr. David Froehlich. | M. | 6 yr. | 3 d. | 7 d. | “ | ........ | ........ | Recovered ; wore tube 6 d. |
| “ | 165 | Dr. G. F. Morris. | M. | 4 yr. 4 mo. | 2 d. | Sev. days. | Not exam. | Sudden heart paralysis. | ........ | Died 1 d. 17 hrs. after intubation. |
| “ | 166 | Dr. A. Hodgman and Dr. C. H. Greenough. | M. | 12 mo. | 1½ d. | Present. | “ | Sepsis and extension. | Sepsis. | Died 12 hrs. “ “ |
| “ | 167 | Dr. J. Lewis Smith. | F. | 3 yr. 9 mo. | 2 d. | Sev. days. | Albumin. | Nephritis and sepsis. | Sepsis. | Died 10 d. “ “ |
| “ | 168 | Dr. L. Bolton Bangs. | M. | 12 mo. | 1 d. | None. | Not exam. | Extens'n and pneumon. | Rickets ; pertussis. | Died 19 hrs. “ “ |
| “ | 169 | Dr. Thomas Kelly. | F. | 5 yr. | 4 d. | 4 d. | Albumin. | Sepsis. | ........ | Died 4 d. “ “ |
| “ | 170 | Dr. Daniel Cook. | F. | 17 mo. | 1½ d. | 4 d. | Not exam. | Extens'n and pneumon. | Pneumonia. | Died 1½ d. “ “ |
| “ | 171 | Dr. A. H. Goelet. | F. | 3 yr. 11 mo. | 2 d. | 4 d. | Albumin. | Extension to bronchi. | ........ | Died 1 d. “ “ |
| “ | 172 | Dr. J. W. Warner and Dr. P. C. Hoag. | M. | 3 yr. 6 mo. | 4 d. | 2 d. | Not exam. | ........ | ........ | Recovered ; wore tube 5 d. 22 hrs. |
| “ | 173 | Dr. A. B. Pope and Dr. G. V. Hann. | F. | 3 yr. | 4 d. | 3 d. | “ | Extension to bronchi. | ........ | Died 1 d. 20 hrs. after intubation. |

| Date. | No. | By courtesy of | Sex. | Age. | DURATION BEFORE INTUBATION OF | | Urine. | Cause of death. | Complications before intubation. | Result. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Croup. | Pharyngeal diphtheria. | | | | |
| 1888. May. | 174 | Dr. C. E. Simmons and Dr. W. A. Hawes. | F. | 3 yr. | 2 d. | None. | Not exam. | ........ | ........ | Recovered ; wore tube 9½ d. |
| June. | 175 | Dr. Daniel Cook. | F. | 18 mo. | 1 d. | Present. | Albumin. | Extension to bronchi. | ........ | Died 4 d. 9 hrs. after intubation. |
| " | 176 | Dr. E. S. Warner. | M. | 5 yr. | 2 d. | 7 d. | " | ........ | ........ | Recovered ; wore tube 5 d. 21 hrs. |
| " | 177 | Dr. J. Lewis Smith. | F. | 7 yr. | 6 d. | 6 d. | " | ........ | Following pneumonia and scarlet fever. | Recovered ; wore tube 4½ d. |
| " | 178 | Dr. G. P. Shirmer. | F. | 3 yr. | 2 d. | None. | Not exam. | Pneumonia. | ........ | Died 1 d. 20 hrs. after intubation. |
| " | 179 | Dr. Daniel Cook. | F. | 8 yr. 6 mo. | 4 d. | 4 d. | Albumin. | Asphyxia (from neglect). (See note.) | ........ | Died 1 d. " " |
| " | 180 | Dr. S. J. Lahey. | M. | 3 yr. 9 mo. | 3 d. | None. | " | ........ | ........ | Recovered ; wore tube 4 d. |
| " | 181 | Dr. J. L. Smith and Dr. C. A. Kinch. | M. | 3 yr. 3 mo. | 2 d. | 4 d. | " | Extension and sepsis. | Sepsis. | Died 1 d. 5 hrs. after intubation. |
| " | 182 | Dr. R. B. Burton. | M. | 3 yr. 2 mo. | 7 d. | 4 d. | No albu'n. | Extension to bronchi. | ........ | Died 1 d. " " |
| " | 183 | Dispensary. | M. | 20 mo. | 4 d. | 6 d. | " | ........ | Measles. | Recovered ; wore tube 7 d. |
| " | 184 | Dr. G. D. Spor. | M. | 2 yr. 7 mo. | 2 d. | 6 d. | Albumin. | Sepsis. | Sepsis. | Died 2 hrs. after intubation. |
| " | 185 | Drs. R. B. and A. I. Burton. | M. | 6 yr. | 5 d. | 7 d. | Not exam. | Sudden heart paralysis. | Measles. | Died 4 d. " " |
| " | 186 | Dr. J. L. Beyea. | F. | 9 yr. | 3 d. | 7 d. | " | Extension to bronchi. | Extension. | Died 7 hrs. " " |
| " | 187 | Drs. R. B. and A. I. Burton. | M. | 21 mo. | 3 d. | None. | Albumin. | Extension to bronchi. | ........ | Died 7½ d. " " |
| July. | 188 | Dr. R. B. Burton. | M. | 2½ yr. | 1 d. | 5 d. | Not exam. | Extension to bronchi. | ........ | Died 2½ d. " " |
| " | 189 | Dr. J. A. McLoughlin. | M. | 2 yr. | Sev. d. | Present. | Albumin. | Sudden heart paralysis. | ........ | Died 16 d. " " |
| " | 190 | Dr. J. Lewis Smith. | F. | 7 yr. | 2 d. | 7 d. | " | Sepsis ; exhaustion. | Sepsis. | Died 3 d. " " |
| Aug. | 191 | Dr. R. B. Burton. | F. | 3 yr. | 1½ d. | 3 d. | " | Sepsis. | Sepsis and scarlet fever. | Died 1 d. " " |
| Sept. | 192 | Dr. J. P. Nolan. | M. | 4 yr. | 1 d. | None. | " | Extension to bronchi. | ........ | Died 1½ d. " " |
| " | 193 | Dr. G. D. Spor. | .. | 4 yr. | 4 d. | Present. | Not exam. | Sudden heart paralysis. | ........ | Died 2 d. " " |
| " | 194 | Dr. G. C. H. Meier. | M. | 6 mo. | 2 d. | None. | " | Exhaustion. | Measles. | Died 1 d. " " |
| " | 195 | Dr. C. A. Kinch. | F. | 3 yr. | 1 d. | ....... | Albumin. | ........ | ........ | Recovered ; wore tube 7 d. |
| Oct. | 196 | Dr. M. L. Healey. | M. | 7½ yr. | 3 d. | Present. | Not exam. | Sepsis ; scarlet fever. | Sepsis ; scarlet fever. | Died 16 hrs. after intubation. |
| " | 197 | Dr. H. G. Lyttle. | F. | 6½ yr. | 2 d. | None. | No albu'n. | ........ | ........ | Recovered ; tube removed in 7 d. 5 hrs. |
| " | 198 | Dr. G. C. H. Meier. | F. | 1 yr. 3 mo. | 2 d. | 1½ d. | Not exam. | Sepsis. | Pneumonia. | Died 11 d. 18 hrs. after intubation. |
| " | 199 | Dr. J. R. Cypert and Dr. C. C. Bradley. | F. | 6 yr. 4 mo. | 7 d. | 4 d. | Albumin. | ........ | ........ | Recovered ; tube out in 2 d. 10 hrs. |
| " | 200 | Dr. A. Jacobi and Dr. R. L. Hoelger. | M. | 3 yr. 8 mo. | 4 d. | 4 d. | " | ........ | ........ | Recovered ; tube out in 2 d. 3 hrs. |

NOTE.—Two patients died from asphyxia, due to neglect on part of parents. In Case 139 the patient was apparently well three days after the removal of the tube, which was worn six days. There was a recurrence of the dyspnœa, and the mother refused permission to reinsert tube. The child died from laryngeal obstruction four days after removal of tube. In Case 179 there was membrane pushed down before the tube, but not sufficient to cause serious obstruction. However, several hours later the obstruction became more severe, and I withdrew the tube. With it came a cast of the larynx and trachea, and all laryngeal dyspnœa disappeared. The obstruction began to return ten hours later, and the father, who was sent to notify me, spent the evening in a corner rumshop, and did not come to me until after the death of the child.

In only one of my cases was the tube coughed up and swallowed. This was passed *per rectum* without difficulty. It is with the unexperienced operators that the tube finds its way to the stomach oftenest.

Table I shows the relative number of deaths from each cause.

Table II shows the percentage of recoveries according to the duration of laryngeal symptoms before operation became necessary. This table would seem to indicate that those cases of laryngeal diphtheria are the most favorable in which the progress of the stenosis is slow; the more rapid the case, the more fatal.

Table III shows the percentage of recoveries according to duration of pharyngeal or post-nasal diphtheria before operation became necessary. Those cases in which membrane is absent from the pharynx or posterior nares are rather more fatal than those cases in which membrane is present.

Table IV shows the percentage of recoveries according to age. The high death-rate after eight years of age is explained on the ground that, in a larynx so large, it requires an unusually severe type of diphtheria to cause sufficient stenosis to need operative interference. This accounts for the rarity of laryngeal diphtheria in adults and its extremely fatal character.

| | Extension to bronchi. | Sepsis. | Pneumonia. | Exhaustion. | Nephritis and convulsions. | Sudden heart failure. | Extension and pneumonia. | Asphyxia. | Tuberculosis. | General paralysis. | Scarlet fever and sepsis. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of cases. | 63 | 24 | 15 | 11 | 11 | 8 | 7 | 2 | 1 | 1 | 1 | 144 |
| Per ct. of whole No. | 43·7 | 16·6 | 10·4 | 7·6 | 7·6 | 5·5 | 4·8 | 1·3 | 0·6 | 0·6 | 0·6 | |

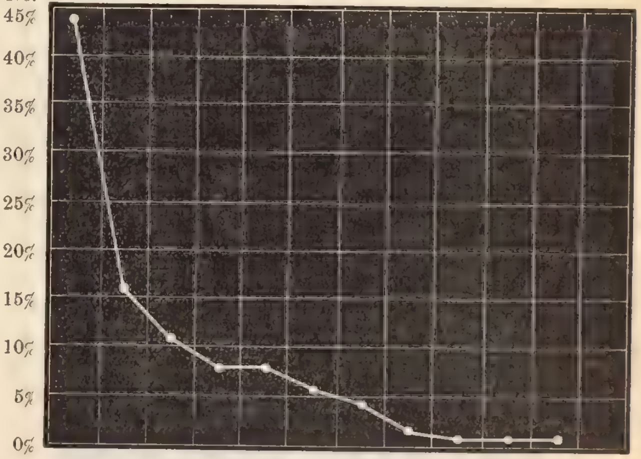

TABLE I.

Table V shows the percentage of recoveries for each month in 1885, 1886, 1887, and 1888. From July, 1885, to November, 1886, there were forty-five operations, with eight recoveries, or 17·7 per cent. From November, 1886, to November, 1887, there were seventy-four operations, with eighteen recoveries, or 24·3 per cent. From Novem-

| | Under 1 day. | 1 to 2 days. | 2 to 3 days. | 3 to 4 days. | 4 to 5 days. | 5 to 6 days. | 6 days and over. | Total. |
|---|---|---|---|---|---|---|---|---|
| No. of cases. | 14 | 54 | 59 | 21 | 28 | 9 | 12 | 197 |
| Per ct. of recoveries. | 14·2 | 16·6 | 32·2 | 28·5 | 35·7 | 33·3 | 41·6 | 27 |

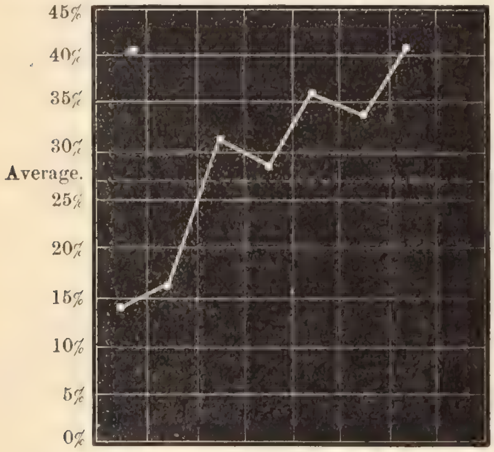

Table II.

ber, 1887, to November, 1888, there were eighty-one operations, with twenty-eight recoveries, or 34·5 per cent. I believe that this marked improvement in the results is partly due to our increased experience in the management of these cases, but that the most important element is the different type of diphtheria we see during different winters.

| | Under 1 day. | 1 to 2 days. | 2 to 3 days. | 3 to 4 days. | 4 to 5 days. | Several days. | 5 to 6 days. | 6 days and over. | None. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|
| No. of cases. | 0 | 13 | 12 | 10 | 22 | 22 | 9 | 47 | 31 | 166 |
| Per ct. of recoveries. | 0 | 15·3 | 16·6 | 10 | 13·6 | 36·3 | 55·5 | 31·9 | 22·5 | 25·9 |

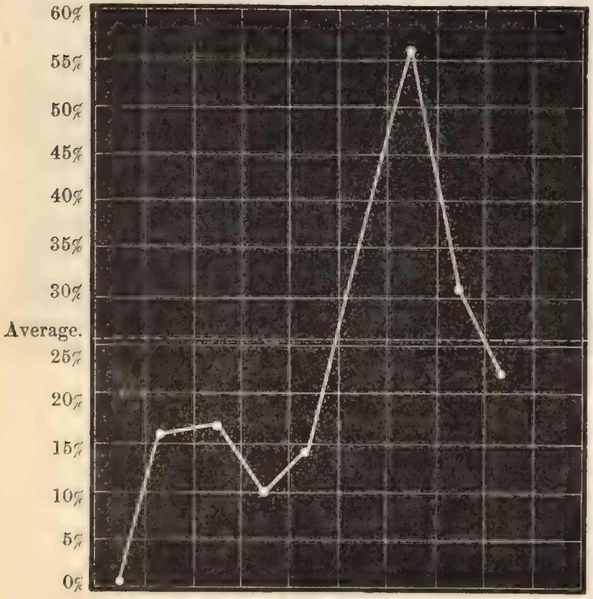

Table III.

| | Under 1 year. | 1 to 2 years. | 2 to 3 years. | 3 to 4 years. | 4 to 5 years. | 5 to 6 years. | 6 to 7 years. | 7 to 8 years. | 8 years and over. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|
| No. of cases. | 8 | 35 | 35 | 54 | 23 | 15 | 15 | 9 | 6 | 200 |
| Per ct. of recoveries. | 0 | 8·5 | 22·8 | 33·3 | 21·7 | 33·3 | 66·6 | 44·4 | 16·6 | 27 |

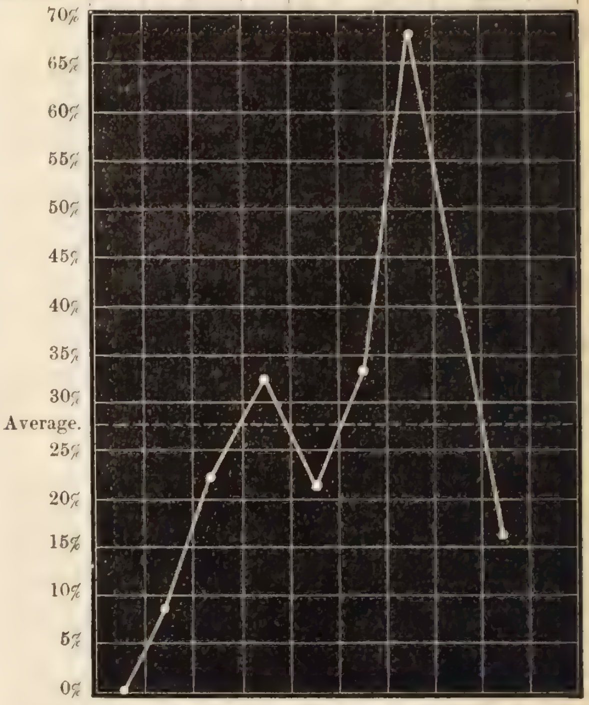

Table IV.

| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No. of cases. | 25 | 13 | 18 | 13 | 20 | 21 | 14 | 6 | 17 | 18 | 13 | 22 | 200 |
| Per ct. of recoveries. | 32 | 30·7 | 38·8 | 46·1 | 35 | 19 | 35·7 | 0 | 29·4 | 22·2 | 0 | 18·1 | 27 |

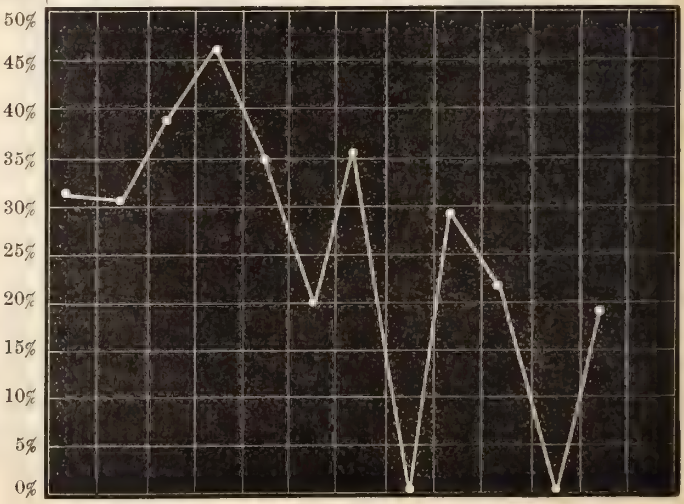

Table V.

Since my last report in June, 1887, I have operated in one hundred and fifteen cases. Of these cases, fifty were treated without the use of bichloride of mercury, in most cases with some iron preparation; and twelve recovered, or 24 per cent. The other sixty-five cases were treated with bichloride of mercury in large doses (gr. $\frac{1}{40}$ to $\frac{1}{60}$ every hour), frequently with iron in addition to the mercury. Of these patients, twenty-four recovered, or 36·9 per cent. I am firmly convinced that the use of bichloride of mercury in the treatment of diphtheria and croup, as recommended by Professor A. Jacobi, of New York, offers us the best means of fighting this disease.

| | Cases. | Recoveries. |
|---|---|---|
| Joseph O'Dwyer,* New York { Consultation | 145 | 40 |
| Hospital | 65 | 6 |
| Dillon Brown, New York | 212 | 61 |
| F. E. Waxham, Chicago, Ill | 158 | 42 |
| J. R. Richardson, Chicago, Ill | 98 | 26 |
| F. Huber, New York | 94 | 37 |
| David O'Shea, Chicago, Ill | 72 | 27 |
| F. K. Priest, New York | 50 | 14 |
| George McNaughton, Brooklyn | 49 | 6 |
| W. P. Northrup, New York | 45 | 10 |
| A. B. Strong, Chicago | 42 | 6 |
| E. E. Montgomery, Philadelphia | 41 | 15 |
| J. A. Anderson, San Francisco, Cal | 39 | 9 |
| William Hailes, Jr., Albany, N. Y | 35 | 11 |
| Thiersch,† Germany | 32 | 3 |
| Carl Beck, New York | 31 | 9 |
| Aug. Caillé, New York | 30 | 9 |
| Joseph Eichberg, Cincinnati, O | 28 | 9 |
| E. F. Ingalls, Chicago, Ill | 25 | 6 |
| A. E. Hoadley, Chicago, Ill | 24 | 5 |
| W. Cheatham, Louisville, Ky | 24 | 5 |
| C. E. Denhardt, New York | 24 | 10 |
| John Tascher, Chicago | 23 | 11 |
| J. D. Griffith, Kansas City, Mo | 23 | 6 |
| D. C. Cocks, New York | 22 | 6 |
| Roswell Park, Buffalo, N. Y | 22 | 5 |
| T. H. Myers, New York | 22 | 4 |
| F. Van Fleet, New York | 22 | 7 |
| W. E. Shaw, Cincinnati, O | 21 | 8 |
| C. G. Jennings, Detroit, Mich | 20 | 2 |
| E. F. Brush, Mount Vernon, N. Y | 20 | 1 |
| W. K. Simpson, New York | 20 | 2 |
| R. J. Stanton, New York | 19 | 9 |
| Dr. Rehn, Frankfort, Germany | 18 | 6 |
| F. Henrotin, Chicago, Ill | 18 | 4 |
| B. T. Shimwell, Philadelphia | 17 | 7 |
| H. W. Berg, New York | 17 | 4 |
| W. H. Prescott, Boston City Hospital | 17 | 2 |
| E. D. Ferguson, Troy, N. Y | 16 | 0 |
| L. L. Palmer, Toronto, Canada | 16 | 4 |
| H. O. Bates, Chicago | 16 | 9 |
| J. W. Pinkham, Montclair, N. J | 15 | 3 |
| George W. Gay, Boston City Hospital | 15 | 4 |
| L. H. Dunning, South Bend, Ind | 14 | 4 |
| J. B. Walker, Boston City Hospital | 14 | 3 |
| A. G. Case, Pittsburgh, Pa | 14 | 4 |
| Sota y Lastra, Seville, Spain | 14 | 4 |
| G. H. Cocks, New York | 14 | 4 |
| John P. Nolan, New York | 13 | 2 |
| Julius Salinger, Philadelphia, Pa | 13 | 6 |
| J. W. Niles, Chicago | 13 | 1 |
| James McManus, Brooklyn, N. Y | 13 | 5 |
| G. N. Jones, Boston City Hospital | 13 | 4 |
| Charles Denison, Denver, Col | 13 | 4 |
| J. L. Cleveland, Cincinnati, O | 13 | 3 |
| Paul Thorndike, Boston City Hospital | 12 | 4 |
| D'Heilly, Paris, France | 11 | 2 |
| J. Scheider, New York | 11 | 5 |
| C. M. Thomas, Philadelphia, Pa | 11 | 0 |
| Dudley P. Allen, Cleveland, O | 11 | 2 |
| John B. Harvie, Troy, N. Y | 11 | 2 |
| W. G. Stark, Hamilton, Ontario, Can | 11 | 2 |
| H. A. C. Anderson, New York | 11 | 4 |
| J. W. Chambers, Baltimore, Md | 10 | 2 |
| Malcolm Leale, New York | 10 | 3 |
| L. E. Holt, New York | 10 | 2 |
| H. D. Ingraham, Buffalo, N. Y | 10 | 2 |
| J. H. Seymour, New York | 10 | 3 |
| E. S. Cocks, New York | 10 | 3 |
| J. J. Reid, New York | 10 | 4 |
| F. W. Merriam, New York | 9 | 4 |
| J. B. Wheeler, Burlington, Vt | 9 | 3 |
| M. P. Hatfield, Chicago, Ill | 8 | 0 |
| H. J. Boldt, New York | 8 | 5 |
| J. W. Flynn, New York | 8 | 0 |
| H. F. Ivins, Philadelphia | 8 | 0 |
| W. P. Bolles, Boston City Hospital | 8 | 4 |
| W. Barnes, Boston City Hospital | 8 | 2 |
| N. S. Hunting, Boston City Hospital | 8 | 0 |
| W. E. Casselberry, Chicago, Ill | 8 | 1 |
| W. W. Seymour, Troy, N. Y | 8 | 0 |
| Major, Montreal, Canada | 7 | 3 |
| F. S. Bunker, Boston City Hospital | 7 | 3 |
| A. Volkenberg, New York | 7 | 2 |
| George Thilo, Chicago | 7 | 4 |
| J. Block, Kansas City, Mo | 7 | 1 |
| H. H. Mudd, St. Louis, Mo | 6 | 2 |
| J. E. Winters, New York | 6 | 0 |
| Hopkins (Stern) | 6 | 6 |
| E. C. Morgan, Washington, D. C | 6 | 0 |
| E. G. Rehfuss, Philadelphia, Pa | 6 | 3 |
| A. Brothers, New York | 6 | 2 |
| Max J. Stern, Philadelphia, Pa | 6 | 3 |
| P. H. Pyne, Yonkers, N. Y | 6 | 1 |
| C. P. Caldwell, Chicago, Ill | 6 | 1 |
| J. F. Holmes, New York | 6 | 4 |
| G. W. Mason, Bloomington, Ill | 6 | 3 |
| W. L. Carr, New York | 5 | 1 |
| I. H. Hance, New York | 5 | 1 |
| H. L. Burrell, Boston City Hospital | 5 | 0 |
| C. M. Whitney, Boston City Hospital | 5 | 0 |
| Marcell Hartwig, Buffalo, N. Y | 5 | 3 |
| P. D. Hughes, Kansas City, Kan | 5 | 2 |
| F. Forchheimer, Cincinnati, O | 5 | 2 |
| A. F. Brugmann, New York | 5 | 2 |
| A. Seibert, New York | 4 | 1 |
| E. W. Mitchell, Cincinnati, O | 4 | 2 |
| J. A. White, Richmond, Va | 4 | 0 |
| O. H. Presby, New York | 4 | 1 |
| F. C. Schaefer, Chicago | 4 | 0 |
| J. C. Schminke, New York | 4 | 0 |
| S. G. Miner, Detroit, Mich | 3 | 2 |
| S. A. McWilliams, Chicago, Ill | 3 | 0 |
| O. H. Hund, San Francisco, Cal | 3 | 1 |
| W. B. Van Lennep, Philadelphia | 3 | 0 |
| A. S. Hunter, New York | 3 | 0 |
| H. Boenning, Philadelphia | 3 | 1 |
| Waldo and Smith, England | 3 | 2 |
| N. S. Roberts, New York | 3 | 1 |
| S. E. Fuller, Brooklyn | 3 | 0 |
| S. Solis-Cohen, Philadelphia | 3 | 1 |
| David Prince, Jacksonville, Ill | 3 | 2 |
| J. V. Hennessy, Albany, N. Y | 3 | 0 |
| J. H. Letcher, Henderson, Ky | 3 | 1 |
| O. J. Price, Chicago, Ill | 3 | 1 |
| J. L. Millfinger | 2 | 1 |
| G. C. Skinner, Hamilton, O | 2 | 0 |
| F. Le Moyne, Pittsburgh, Pa | 2 | 0 |
| J. W. Humrichouse, Hagerstown, Md | 2 | 0 |
| J. M. Schley, New York | 2 | 0 |
| S. S. Jones, New York | 2 | 1 |
| T. G. Morton, Philadelphia | 2 | 0 |
| D. W. Cheever, Boston City Hospital | 2 | 0 |
| H. L. Smith, Boston City Hospital | 2 | 1 |
| W. H. De Witt, Cincinnati, O | 2 | 2 |
| C. H. Knight, New York | 2 | 0 |
| F. S. Sellew, New York | 2 | 0 |
| M. S. Kakeles, New York | 1 | 1 |
| J. P. McGowan, New York | 1 | 0 |

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* Dr. O'Dwyer's hospital cases cover a period of six years. It was experimental work with his early and imperfect instruments, and I have therefore omitted them in the summary.

† Thiersch says that he saw during this time a very malignant type of diphtheria, and of the eighteen patients tracheotomized every one died.

| | Cases. | Recoveries. |
|---|---|---|
| D. C. Hawley, Burlington, Vt | 1 | 0 |
| G. E. Brewer, New York | 1 | 0 |
| B. G. Clark, New York | 1 | 0 |
| W. H. Carmalt, New Haven, Conn | 1 | 0 |
| F. W. Hinkle, Buffalo, N. Y | 1 | 0 |
| T. K. Perry, Albany, N. Y | 1 | 0 |
| S. A. Mahoney, Boston City Hospital | 1 | 0 |
| H. L. Plummer, Boston City Hospital | 1 | 0 |
| J. M. Fox, Philadelphia | 1 | 1 |
| F. Tipton, Selma, Ala | 1 | 1 |
| I. P. Furniss, Selma, Ala | 1 | 1 |
| James Stenhouse, Denver, Col | 1 | 0 |
| James Collins, Philadelphia | 1 | 0 |
| W. S. Lindsay, Topeka, Kan | 1 | 1 |
| John Chambers, Indianapolis, Ind | 1 | 0 |
| N. A. Drake, Kansas City, Mo | 1 | 0 |
| W. H. Nammack, New York | 1 | 0 |
| J. F. Russell, New York | 1 | 0 |
| O. S. Runnells, Indianapolis, Ind | 1 | 1 |
| J. G. Curtis, Louth | 1 | 1 |
| G. Langmann, New York | 1 | 1 |
| F. E. Miller, New York | 1 | 0 |
| J. O. D. Cullen, Richmond, Va | 1 | 0 |
| L. Haupt, New York | 1 | 1 |
| C. M. Shields, Richmond, Va | 1 | 0 |
| W. H. Knap, Bloomington, Ill | 1 | 1 |
| F. Donaldson, Jr., Baltimore, Md | 1 | 0 |
| J. A. Robinson, Chicago | 1 | 0 |
| Grand total | 2,368 | 647 |

*Summary.*—The foregoing list gives 2,368 cases with 647 recoveries, or 27·3 per cent. It is the record of 166 operators, practicing in Germany, France, England, Spain, Canada, and nearly every State in this country. The results of each operator, with twenty-six exceptions, were personally communicated to me since October 25th of this year.

"The Kensington," 102 East Fifty-seventh Street.

# THE OPERATIVE TREATMENT OF A CASE OF HYPEROSTOSES OF THE EXTERNAL AUDITORY CANAL.*

## By THOMAS R. POOLEY, M. D.

The object of this paper being mainly to describe the operative treatment of an osseous tumor, or rather tumors, of the auditory canal, very little time will be given to the consideration of their causation or pathology except so far as may be necessary to a differential diagnosis of the case before us.

The terms exostoses or hyperostoses are quite generally used interchangeably. Cassell ("Transactions of the International Medical Congress," London, 1881) accepts two kinds of osseous formations—hyperostoses and exostoses—varying in regard to origin, size, form, and structure. Hyperostoses are hyperplasiæ. They occur only in the inner portion of the osseous meatus, and never before complete ossification of the latter. They are of the consistence of ivory, have no pedicle, and are immovable, of conical form, and stand in no relation to other affections of the ear. The seat of exostoses proper is the boundary between the osseous and cartilaginous meatus. They are always pedunculated, slightly movable, and of very diverse form. Unlike the hyperostosis, several exostoses are never found at the same time. Yet the two forms may occur together. According to von Tröltsch, however, no sharply defined line separates the exostoses from the hyperostoses; but he applies the latter term to those diffuse growths occupying the whole length of the meatus, and "exostoses" to circumscribed, tumor-like, osseous new formations. If we, then, prefer the term hyperostoses, it is, after all, to be considered as a more or less arbitrary distinction.

The surgical treatment of these growths has hitherto been very unsatisfactory; and this is not to be wondered at when we consider the ivory-like density of the tumor and its situation.

Nor is the danger all surmounted even when we have succeeded in the removal of the bony tumor, for the subsequent inflammation of the walls of the auditory canal is very likely to result in atresia, or even complete closure. Or an acute inflammation of the middle ear may result through wounding the membrana tympani, or an extension of the inflammation to the parts by continuity. It can not, therefore, be wondered at that all sorts of compromises in the way of treatment are recommended and resorted to before any surgical procedure is tried, such as local painting with a tincture of iodine and caustic solutions, the internal administration of mercury and iodine when the disease is supposed to have a syphilitic basis, and, when the growth has reached such a size as to interfere with hearing, attempts at dilatation.

Such procedures, however, seem to be tedious, of very doubtful use, and to the last degree unsurgical. So long as the growths produce no unfavorable symptoms, it is far better to let them alone; but, when they have reached such a size as to cause contractions of the meatus, so that cerumen and epidermic masses accumulate behind the stricture, to interfere with the hearing, and to produce a feeling of distension in the ear and pain and weight in the affected side of the head, we are justified in attempting the operation for their removal, difficult and even dangerous though it may be, especially as the improvements in the instruments which can be adapted to this purpose have made the operation far less formidable than it formerly was.

The methods recommended are: (1) Removal by means of a gouge; (2) perforations of the exostoses by means of files, drills, and the dental engine; (3) removal by gouge and mallet; (4) destruction of the exostoses by the galvano-cautery; (5) removal by means of a fine chain-saw or écraseur, which can only be performed in a few cases.

By far the best of these methods, it seems to me, is the use of the dental engine, or some similar motor power for either drilling out or removing these growths. Such was the method employed by Matthewson in a case which he reported to the International Otological Society in September, 1876. The machine used was that known as Elliot's suspension dental engine. The burrs employed were ground to the form best adapted to this purpose, the smallest of the drills being about 1½ mm. in diameter, and the larger ones 2½ and 3 mm. in diameter. The plan of operation followed by him was to first perforate with the smallest drills the bony growth near its center, then to use successively the larger ones to enlarge the perforations and run them together, and, by a lateral pressure, to ream out the meatus. When the case now to be described came before me, I remembered this one of Matthewson's, and, after revolving the matter over, determined to operate somewhat after the same method, but with a different instrument—the electro-osteotome invented by Dr. Milton Josiah Roberts, of New York. This instrument is provided with four interchangeable tool-bearing head-pieces—viz., a chuck, circular-saw, sectional-saw, and straight-saw head-pieces. Of these, the chuck, designed to hold and operate trephines, drills, and burrs, was obviously the only tool-bearing head-piece required for the operation under consideration. The bone-cutting tool selected for the removal of the growths was a hollow trephine. It consists of a shank adapted to be held by the screw clamping jaws of the chuck. It is provided with a cylindrical gauge or protruding hood, clamped through by a screw, by the adjustment of which the depth of the cut is determined. The sides of this trephine are straight, which facilitates its passage through the bone. The trephine used in the operation was three sixteenths of an inch in diameter, its circular form enabling the operator to place its cutting edge in a plane corresponding with the projecting bony growth. In operating the electro-osteotome, the whole weight of the instrument is sustained by a coil-spring or rubber connected to the arm of an adjustable crane, which can be attached to any table. The elasticity of a suspension cord permits of the free movements of the motor over a wide range of territory, so that it can be brought into any desirable relationship with the body of the patient operated upon.

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* Read before the Medical Society of the State of New York at its eighty-third annual meeting.

The patient, a gentleman of thirty-five years of age, came to consult me about an obstruction in his right ear on September 12, 1888. He experienced but little inconvenience except some diminution in hearing, and, upon introducing his finger in the meatus, found some hard obstruction, which he took for impacted wax. Upon examination, the meatus was found nearly occluded by a bony growth, or rather growths, one of which sprang from the posterior, the other from the upper wall and coalesced, leaving only a narrow aperture below an anteriorly, through which I could get a glimpse of the healthy membrana tympani. The integument covering the growth was somewhat red and sensitive. Both tumors had their origin from the osseous structure near the cartilaginous wall; that arising from the posterior wall measured at its base about 4 mm., that from the upper wall 2½ mm. The shape of both was conical. The watch was heard at about an inch and the voice at thirty feet. In the left ear a much smaller, perfectly symmetrical growth as to position sprang from the posterior wall of the osseous canal and extended by a conical point into the meatus, but not enough to obstruct the canal or affect the hearing. The patient was not aware how long the growths had been in developing, as they had caused neither pain nor inconvenience, until he accidentally discovered the obstruction in the right ear, as already mentioned. He, however, recalled to my mind that only a year or two before he had consulted me on account of slight impairment of hearing, which was found to be due to impacted cerumen, and was cured by syringing. Iodide of potassium in gradually increasing doses was given, until he took about a drachm a day, and continued for some time without any effect in reducing the size of the growth. On October 2d the tumors had evidently increased in size, and the medicine was discontinued. On November 2d an operation was proposed and accepted by the patient. The deafness had increased, and there was a feeling of weight and pain in the ear and side of the face, which even made him desirous to have something done for his relief as soon as possible. The operation was performed on November 14, 1888, at 3.30 P. M., with the instrument already described, and with the assistance of Dr. Milton Josiah Roberts, Dr. J. R. Latham, Dr. Charles S. Ward, and Dr. J. Hasbrouck, Dr. Roberts having the control of his own instrument, with which his daily practice had made him familiar, the patient being placed in a suitable light upon a high table under ether. The operation was at first conducted by direct light, but later, as the daylight waned, the meatus was illuminated by mirror on the forehead of the operator and artificial light employed. The first step was to remove as far as possible the integument covering the growth, that it might not retard the action of the trephine. This was done by means of a small periosteal knife, the skin being circumscribed and scraped off. The bony growths, first the larger one, were attacked with the small trephines already described. The cutting edge of the trephine was set in a plane corresponding with the projecting growth. The trephine was replaced by a small-sized burr, and with this the cut surface representing the place of the attachment of the growth was smoothed down so that it was not quite flush with the surface of the external auditory canal. In a similar way the smaller growth was also removed. There was so much hæmorrhage that it was necessary to stop frequently to swab out the canal and to cleanse the meatus by syringing, so as to remove the blood and *débris* of soft and bony tissue. The operation, which lasted nearly two hours, was thus rendered very lengthy and tedious. A probe could now be carried the whole length of the auditory canal, which was about of its normal width. There was so much oozing of blood that it was difficult to determine whether any damage to the membrana tympani had been done, but, so far as could be ascertained, it was uninjured. Antiseptic precautions were observed so far as possible. The canal was plugged with antiseptic hydronaphthol gauze and a bandage applied to keep it in place. Upon recovering from the influence of ether, the patient complained of no pain, and slept well the first night after the operation. The dressing was allowed to remain for four days, and was then removed. During all this time he complained but little of pain, and slept well every night. When the dressing was removed, however, there was considerable purulent discharge, so that it was thought best to leave the canal free for the purpose of cleansing. The walls of the canal were so swollen, especially in its posterior part, that the condition of the membrana tympani could not be made out. Up to this time he had suffered little or no pain. But on the evening of the sixth day after the operation he sent for me on account of very severe pain, and had all the symptoms of acute inflammation of the middle ear. The pain, which was relieved by the application of leeches and instillations of hot water, was soon followed by a profuse purulent discharge, and by carefully cleansing the canal I was able to detect a small perforation of the membrana tympani in its anterior lower quadrant. The ear was carefully cleansed by syringing with hot water several times a day, hot water frequently instilled, and instillations of Magendie's solution of morphine also used to allay the pain, which soon became much less. Coincident with this attack of pain the hearing, which had been quite good, became very much impaired. The meatus and auditory canal were swollen, but not so much so that I could not watch the progress of the disease of the middle ear. The wound in the membrana tympani closed in about three weeks, and hearing again improved, so that the voice could be heard from twenty to thirty feet.

The swelling of the auditory canal now, however, became very much more pronounced, causing very much contraction, especially in its posterior portion near the membrana tympani, so that not even the smallest speculum could be introduced for the purpose of examination. There was no longer any purulent discharge. This swelling of the walls of the canal (there were no granulations) threatened to entirely close the canal, especially in its posterior part, and was accompanied by a good deal of pain, but quite different in character from that of the acute inflammation of the middle ear. A variety of measures were resorted to to prevent closure of the canal, at first by dilatation with sponge tents, which did but little in the way of widening it, but they caused no little inconvenience and pain. I then tried the use of elastic rubber tubing, using for the purpose pieces of flexible soft catheter recommended by Dr. Emerson, but these were still more painful than the tents, and had to be discontinued. Occasional applications of nitrate of silver were also made, but all of these plans seemed only to aggravate the swelling and to increase the difficulty. They were therefore all abandoned, and the case treated as one of acute inflammation by the frequent instillations of hot water only. Improvement now at once took place, as shown by the subsidence of the swelling and widening of the canal, and the meatus has now reached its normal size. There is still a considerable degree of contraction of the posterior part of the canal, but a glimpse of the membrana tympani can be had. All symptoms of pain and irritation have subsided, and the hearing is nearly normal for the voice. A watch, however, is only heard on contact. This was the condition of the patient when last seen, about three weeks ago. Careful examination does not reveal any remnants of the exostoses.

If we compare the results obtained in this case and that reported by Matthewson with those published cases operated on by other methods, it must be acknowledged that they give very much better results and are far less tedious and dangerous and more effective than any methods hitherto employed. Dr. Matthewson in his paper gives a brief *résumé* of the history of the cases which had been operated upon up to that time. We may best sum up the advantages of such instruments in Matthewson's conclusions, "that it is less tedious. A few tests of this and any hand drills in perforating dense bone will demonstrate that it is less dangerous, for the reason that with rapidly revolving drills perforations can be made with so slight a pressure that there is little danger of injuring the deeper parts of the ear or walls of the meatus by the slipping so likely to occur with hand drills or with hammer and chisel. The instrument is also held between the thumb and fingers in such a way as to interfere to a less degree with illumination and inspection of the meatus. During the operation the drills and burrs can also be used, not only to perforate with their points, but also to enlarge openings already made to any extent or direction by lateral pressure with their sides." All of the above-enumerated advantages which Matthewson alleges for the dental engine seem to be applicable to the electro-osteotome. The control of the instrument, while it may be more difficult to acquire, seems to be more certain than that of the dental engine; for, if we only give the matter a moment's thought, it must be apparent that, there being no weight sustained by the hand of the operator and no muscular power required to keep the cutting tool in contact with the bone, the tactile sense of the operator is unimpaired by muscular exertion, which is not the case when using bone-cutting instruments dependent for their power upon manual labor. The use of the trephine by setting the instrument close to the base of the tumor, thus cutting it off close to its attachment, would seem to be preferable to the method recommended by Matthewson, and less likely to leave a ragged and uneven surface. In conclusion, I wish to dissent from what seems to be the generally adopted plan of treating the contraction of the canal from swelling of the soft tissues by dilatation and the inserting of tubes. So far as one case goes to prove anything, the one just reported proves that such a plan is not only of no use, but even pernicious. The threatened entire closure of the canal was, I believe, only averted by the abandonment of all such measures, which only aggravated the irritation and inflammation. Whether the inflammation of the middle ear was the direct result of injury to the membrana tympani during the operation it is difficult to say. I am, however, of the opinion that it was not, but that it was caused by the extension of the inflammation by contiguity.

Note.—Since this paper was read I have seen the patient again. The canal through its entire length has almost its normal size. The membrana tympani is almost of normal appearance, the perforation having entirely closed. Hearing for the voice is normal, and the watch can be heard at two inches. There only remains a slight tinnitus, which is daily diminishing.

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**Normal Parturition after Extra-uterine Pregnancy.**—Dr. Tüppert, of Wunsiedel, reports the case of a healthy woman, aged thirty-four, who had borne two children, the youngest ten years previously. She became pregnant in March, 1885. In July, severe pains occurred in the left side of the abdomen, with dysuria. On examination, a roundish body was felt just above the left pubic bone, and smaller parts on the opposite side of the abdomen. The enlarged breasts secreted milk. The cervix (which was not deviated laterally) was thick, short, and soft; the orifices "as in the non-pregnant condition." No mass could be felt through the uterine walls; the uterus was not enlarged and was freely movable. The placental *bruit* was heard just above the symphysis. The diagnosis made was abdominal pregnancy with transverse position of the fœtus. Fœtal movements were perceived at the end of July. In the middle of September severe pains for one day were felt, with a rigor, and after this the movement ceased. The abdomen remained "not very much smaller," though free from pain, and for two years the woman was apparently healthy. In November, 1887, she again became pregnant, and fœtal movements were perceived in April, 1888. The remains of the previous pregnancy were still to be felt as a hard mass, "as thick as an arm," just behind the symphysis; but bimanual examination showed that the pelvis was not obstructed. An easy labor took place in August. On December 12, 1888, Dr. Tüppert made another examination, and the remains of the previous fœtus were found to have shifted their position; the head, which previously lay on the left pubic bone, now rested against the symphysis; the trunk and the feet were about four fingerbreadths from the right pubic bone. The latter were somewhat movable, the head less so. Since the last labor the fœtal remains had undergone no diminution in size, and were of stony hardness.—*British Medical Journal.*

**The Influence of Position on Fractures of the Lower Extremities.**—Colles ("Dub. Jour. of Med. Sci.," September, 1888) explains the fact that a change from the horizontal to the sitting posture is injurious to patients with fractures of any of the bones of the lower extremities by showing that, as the patient rises into a sitting posture, the extremity of the ischium is used as a fulcrum, and, as the head of the femur is at least three inches above that point when the patient is in the horizontal position, it must be pushed downward two or three inches. This must influence the point of weakest resistance, the seat of fracture.

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NEW YORK, SATURDAY, MARCH 9, 1889.

## ILIAC ABSCESS.

Our readers are aware that the subject of the treatment of abscesses arising from disease of the vermiform appendix or of the cæcum has been much discussed during the past year, and that the discussion has turned largely upon the question of the relative frequency of intraperitoneal and extraperitoneal (subperitoneal) suppuration. It will be remembered that, in the discussion that took place in the New York Surgical Society last year, diverse views were put forward by the late Dr. Sands on the one hand and by Dr. Weir and others on the other hand. The substance of Dr. Sands's contention was that most abscesses of the right iliac fossa were subperitoneal, and that it was better to wait until some time from the eighth to the tenth day before opening them, in order to avoid the danger of penetrating a layer of peritonæum not yet adherent, and so setting up general peritonitis by infection. Dr. Weir took the view that such abscesses were most commonly examples of localized intraperitoneal suppuration, that their rupture into the general peritoneal cavity was the chief thing to be dreaded, and that interference should not be put off beyond the third day at the latest, when sufficient adhesion would be found to guard against infection of the peritonæum as a whole.

In a very satisfactory review of the whole subject, published in the "Gazette hebdomadaire de médecine et de chirurgie," Dr. A. Broca remarks that each line of argument applies to particular cases; the problem lies in the diagnosis, and is not always an easy one to solve. It is well enough to say, with Monneret and Fleury, that an intraperitoneal abscess differs from one that is subperitoneal in being more movable, more superficial, and susceptible of palpation by the rectum or the vagina; that peritonitic symptoms predominate, chills occurring more commonly and the fever being more intense and the pain more acute; and that the tumor-like mass is softer and more fluctuating from the first—but all this is for the most part theoretical, not much attention having thus far been bestowed upon the study of encysted peritonitis. New facts are wanted and a greater number of minute observations. Normal anatomy has thrown some light on the difficulties of the subject, especially Treves's demonstration of the entire peritoneal investment of the cæcum (although that was long ago recognized by Bardeleben, Luschka, Krause, and Tuffier); and post-mortem examinations have contributed not a little to the same purpose. Clinical observation, however, must have the last word. In the mean time, it may be said that, in case of doubt, there is less danger in interference than in too great delay.

# *MINOR PARAGRAPHS.*

## THE NEW YORK ACADEMY OF MEDICINE.

The Academy is to be congratulated upon having at length secured a good site for the new building that it intends to erect. It consists of three lots, a piece of land measuring 75 by 100 feet, on the north side of West Forty-third Street, between Fifth and Sixth Avenues. This situation is likely to remain easy of access to all the physicians of New York for many years to come, and, although the adjacent property is not now occupied with buildings of a sort that one likes to look upon, it is altogether probable that it will soon be built upon in quite a different style. The Academy has worked hard to get the means with which to buy such a piece of property, with a fair prospect of success in the end, but in all probability the present generation would not have been destined to look upon its new building had it not been for the efforts put forth by three successive presidents, Dr. Barker, Dr. Jacobi, and Dr. Loomis. These gentlemen will always be held in grateful remembrance by the Academy. It is understood that the new building is to be fire-proof. That is a necessity, for the Academy's library has now become too valuable to be left much longer in peril by fire; moreover, it is undoubtedly a fact that men who would willingly have contributed to its increase have been restrained from doing so by the danger of its destruction. It is to be hoped that the Academy will not be over-lavish in the matter of ornament, but will content itself with such a plain but substantial structure as befits a sober and unpretentious body of men.

## MEDICINE AND LIFE INSURANCE.

Although almost every practitioner of medicine thinks himself quite capable of performing the duties of a life insurance company's medical examiner, it must be evident on reflection that the judicious selection of "risks" is quite as important to the company's success as the actuary's work. The solid prosperity that has been achieved by several of the larger companies in the United States is therefore a proof of the good work that has been done by their medical officers. So prosperous, indeed, have some of them become that for a number of years they have been doing business on a large scale abroad. The New York Life Insurance Company, for example, if we are correctly informed, has a great number of members in France. That it has been able to build up such a business among a people so cautious as the French bears testimony to the ability with which its affairs have been managed, not the least among which, we repeat, are those of its medical department.

## THE LOMB PRIZE ESSAY OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

The association's secretary, Dr. Irving A. Watson, of Concord, New Hampshire, has issued a circular setting forth its dissatisfaction with the way in which the "New York Herald" has dealt with it in the matter of the publication of the prize essay on "Practical Sanitary and Economic Cooking for Persons of Moderate and Small Means." It seems that the exclusive right of publication was given to the "Herald," and that the association's representatives understood that the essay was to be published entire. It now complains, not only that the "Herald" published only parts of the essay, with transpositions and violations of sequence that rendered the printed version comparatively worthless, but that it interpolated vulgar headlines. We do not wonder that Dr. Watson and Mr. Lomb are indignant. Perhaps there is no redress for them in this instance, but their misfortune may serve the good purpose of impressing more and more upon those who have literary wares to purvey that there should be some conformity between the character of matter to be published and that of the proposed vehicle of its publication.

### THE POST-GRADUATE MEDICAL SCHOOL OF CHICAGO.

We are glad to notice such an evidence of the prosperity of this school as is shown in the publication of a monthly journal, the "North American Practitioner," two numbers of which have now appeared. It is edited by Dr. Bayard Holmes and Dr. Junius C. Hoag. The contents of the "Practitioner," contributed largely by members of the faculty, are highly valuable and well presented.

### CRUDE DRUGS AS COMPARED WITH ALKALOIDS.

There is now much discussion, says our Paris correspondent, as to whether cardiac medicines should be given in the form of an alkaloid, or whether the preparations of the crude drug should be used. Huchard, Dujardin-Beaumetz, and many others believe that they have obtained better results by the use of the drug itself, while G. Sée and his followers prefer the alkaloids. The latter hold that an alkaloid is always the same, while the virtues of the drug are very uncertain and depend upon the age, etc., of the plant when gathered, and upon the time it has been kept before being used. This discussion has arisen in connection with the use of strophanthine. Many have found it to be uncertain in its effects, and have therefore resorted to the plant itself.

### ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 5, 1889:

| DISEASES | Week ending Feb. 26. | | Week ending Mar. 5. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 6 | 1 | 6 | 1 |
| Scarlet fever | 323 | 36 | 361 | 47 |
| Cerebro-spinal meningitis | 4 | 3 | 4 | 2 |
| Measles | 264 | 9 | 313 | 18 |
| Diphtheria | 160 | 41 | 194 | 51 |
| Small-pox | 0 | 1 | 0 | 0 |

**The Philadelphia Polyclinic.**—The present hospital accommodations, at Broad and Lombard Streets, having proved inadequate to the demands for admission, the trustees have secured a large lot, 96 by 143 feet, on Lombard Street, above Eighteenth Street, four squares from the present location, and during the spring will erect a commodious building with ample room for the various clinics and a convenient amphitheatre for lectures and demonstrations, in addition to enlarged hospital wards. As the foundations and part of the walls of the structure now situated on the land can be made use of, the new building is expected to be ready for occupation in September or October, when several additional departments of instruction will be established. We understand that the Polyclinic was never in such a flourishing condition as now.

**The New York State Medical Association.**—The fifth annual meeting of the Fifth District Branch will be held in Brooklyn on Tuesday, May 28th.

**The Alumni Association of Bellevue Hospital Medical College** will hold its annual dinner this (Saturday) evening, at the Hotel Marlborough.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from February 17 to March 2, 1889:*

Lauderdale, J. V., Major and Surgeon, is granted leave of absence for one month, to take effect between March 1st and 15th next. Par. 2, S. O. 9, Headquarters Department of Texas, San Antonio, February 15, 1889.

Pilcher, James E., Captain and Assistant Surgeon, will, by direction of the Secretary of War, repair from Fort Wood, New York Harbor, to Philadelphia, Pa., on or about February 23, 1889, for the purpose of giving instruction to the hospital corps of the First Brigade, National Guard of Pennsylvania. On completion of this duty he will return to his proper station. Par. 1, S. O. 4, A. G. O., February 18, 1889.

Shufeldt, Robert W., Captain and Assistant Surgeon, will, by direction of the President, proceed to Fort Leavenworth, Kansas, and report in person to Brigadier-General Wesley Merritt, President of the Army Retiring Board of that place, for re-examination by the Board, and on the conclusion of his examination will return to this city. Par. 13, S. O. 40, A. G. O., Washington, D. C., February 16, 1889.

Harris, Henry S. T., First Lieutenant and Assistant Surgeon, will proceed to Fort Davis, Texas, so as to arrive there on or before February 25th, and report to the commanding officer thereof for temporary duty. Upon return of Surgeon Lauderdale from leave of absence, Assistant Surgeon Harris will return to the Post of San Antonio. Par. 3, S. O. 9, Headquarters Department of Texas, San Antonio, February 15, 1889.

McKee, James C., Lieutenant-Colonel and Surgeon, is granted leave of absence for two months by direction of the Secretary of War. Par. 13, S. O. 44, A. G. O., Washington, February 24, 1889.

Greenleaf, Charles R., Major and Surgeon, will proceed from this city as early as practicable to Newport Barracks, Kentucky, to examine and report upon a proposed change in the location of the post hospital at the new barracks now in process of construction near that post; thence to Columbus Barracks, Ohio, to examine and report upon the necessity for an addition to the hospital at that post. Par. 16, S. O. 43, A. G. O., Washington, February 20, 1889.

Byrne, Charles B., Captain and Assistant Surgeon, is granted leave of absence for twenty-one days. S. O. 44, Headquarters Division of the Atlantic, Governor's Island, New York city, February 21, 1889.

Owen, William O., Jr., Captain and Assistant Surgeon, is relieved from duty at Fort Leavenworth, Kansas, by direction of the Secretary of War, and will report in person to the commanding officer Fort Gibson, Indian Territory, for duty at that post, relieving Captain C. N. B. Macauley, Assistant Surgeon, who, on being so relieved, will report in person to the commanding officer, Fort Leavenworth, Kansas, for duty at that post. Par. 3, S. O. 48, A. G. O., February 27, 1889.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending February 23, 1889:*

Bertolette, D. N., Surgeon. Detached from the Thetis and to wait orders.

Henneberge, L. G., Passed Assistant Surgeon. Detached from the Minnesota and ordered to the Thetis.

Marmion, R. A., Surgeon. Detached from the Juniata and to wait orders.

Percy, H. T., Passed Assistant Surgeon. Detached from the Naval Hospital, Washington, and ordered to the Coast Survey Steamer Patterson.

Ogden, F. N., Assistant Surgeon. Detached from the Juniata and to wait orders.

Stokes, Charles F., Assistant Surgeon. Ordered to the Minnesota.

Wilson, George B., Assistant Surgeon. Ordered to the Navy-yard, Mare Island, Cal.

Rixey, P. M., Passed Assistant Surgeon. Promoted to Surgeon, November 27, 1888.

Bradley, George P., Surgeon. Ordered to hold himself in readiness for duty about March 1st to Mohican.

Lung, George A., Assistant Surgeon. Ordered to hold himself in readiness for duty about March 1st to Mohican.

Whiting, Robert, Passed Assistant Surgeon. Detached from the Coast Survey Steamer Patterson, and to proceed home and wait orders.

**Society Meetings for the Coming Week:**

Monday, *March 11th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *March 12th:* New York Medical Union (private); Medical Societies of the Counties of Chemung (quarterly—Elmira), Rensselaer, and Ulster, N. Y. (quarterly); Newark, N. J., and Trenton (private), N. J., Medical Associations; Baltimore Gynæcological and Obstetrical Society.

Wednesday, *March 13th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany and Montgomery (quarterly), N. Y.; Worcester, Mass., District Medical Society (Worcester); Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society.

Thursday, *March 14th:* Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga, N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *March 15th:* Chicago Gynæcological Society; Baltimore Clinical Society.

Saturday, *March 16th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

## Proceedings of Societies.

### NEW YORK ACADEMY OF MEDICINE.

SECTION IN THEORY AND PRACTICE OF MEDICINE.

*Meeting of January 15, 1889.*

Dr. R. C. M. Page in the Chair.

**The Influence of Carlsbad Water on the Secretion of Uric Acid.**—Dr. S. LeClercq, of Carlsbad, Germany, read a paper with this title. He remarked that while for many years the value of these waters had been recognized in the treatment of gout, no definite statement had been put forward as to what cases they were likely to be of benefit in and in what not. He had made careful experiments on himself to determine whether, as had been supposed, the secretion of uric acid was lessened by drinking freely of the water. With a uniform diet and taking increasing doses of the water, he had found the amount of uric acid unaltered, as compared with the amount noted in the five weeks previous to taking the Carlsbad water. He had found that on a fixed diet the daily amount of uric acid, nevertheless, varied. Niemeyer had stated that this variation depended on unknown changes of action in the internal economy. He believed that in the future the influence of any drug on the production of uric acid would be found to have no special relation to its value in the treatment of gout. Also our theories as to the nature of gout and the action of Carlsbad salts must both change. He had found Carlsbad water acting in several ways, some of which were: 1. The condition of the patient was improved through its causing the production of better blood (without any solution or dissipation of the tophi). The taking of warm water of itself acted favorably by diluting the fluids and washing out the channels of the body. 2. In certain cases the gouty diathesis was not perceptibly modified. 3. In other cases the water did seem to lessen the synthetic formation of uric acid. 4. It often acted on other anomalies of function, and improved the general health. The digestion was in some cases improved, or deleterious by-products were taken up and excreted more rapidly. Perhaps the topical effect of the water on the stomach explained much of the benefit obtained. The exercise, bathing, pure air, and change of surroundings also must exert considerable influence on the peristalsis and circulation, and thus increase the general tone of the body.

Dr. F. N. Otis said that he could speak from his own impressions derived from a recent prolonged stay at Carlsbad, and from the results obtained by sending patients there. He had found that very gratifying results could be expected where the function of the liver was impaired, or where there was undue accumulation of fat. Especially where there was difficulty in the circulation of the bile, or the formation of gall-stones gave constant annoyance, the benefit was often prompt and permanent, even in cases in which phosphate of sodium and rigid diet in this country had failed to give improvement. It was better, if possible, to spend two or three consecutive seasons there. He remembered one case in particular in which the difficulty had been quite obscure. The patient had suffered from jaundice, inflammation over the liver, and progressive wasting of flesh. As summer came on, all other remedies having failed, he had been carried to the steamer in an ambulance and sent to Carlsbad, going all the way on his bed. He was then sixty-three years old. Improvement had begun at once, and he had returned to America in apparently perfect health, and was now, at the age of seventy, one of the most vigorous men in the city for his years. In all his earlier life, up to the time of his sickness, this patient had indulged himself freely at table, and since his return had resumed these habits without seeming detriment. The speaker had gone to Carlsbad himself to obtain relief from what was either a gouty or a nervous dyspepsia, with mental depression and inaptitude for work. His diet while there had contained little sugar or starch, but an abundance of meat, with a little bread and claret. Although he had taken but little exercise, he had lost a pound in weight every day for a month. A feeling of debility had been noticeable during his stay at the springs, and had continued for about a month after his departure. It had then slowly disappeared; he had regained flesh, and had had no return of digestive troubles. He thought the class of patients who could expect benefit at Carlsbad were those whose sickness was due to free living and too little exercise. When a patient could not be sent to Carlsbad, he would advise the giving of remedies which acted on the skin and liver; also abundant exercise. Mercury was a most valuable remedy, and had relieved the condition when a visit to Carlsbad had failed to do so. He gave one, two, or even three grains of calomel a day, and did not find the system deteriorated by it. He had found that when there was Bright's disease, with abundant albumin, the Carlsbad waters depressed the vitality, and were the reverse of beneficial.

**Auto-infection from Gastro-intestinal Infection.**—Dr. W. H. Thomson read a paper thus entitled, in which he related a series of instances in which nervous diseases had been found due to nothing else than poisoning from depraved intestinal fluids that had resulted from incomplete digestion. These disorders in the central nervous system had promptly disappeared with a complete revolution in diet. The food on which several of these patients had recovered was simply the Arabic fermented milk, with powders of bismuth and pepsin. The conditions in which he had thus produced relief included Graves's disease; hypochondriasis; slow and excessively rapid heart action; diarrhœa, with each passage followed by cerebral distress; persistent insomnia; periodical convulsions, followed by unconsciousness and coma and preceded by very bad breath; epilepsy; and migraine. Minor disturbances of health could be traced in innumerable instances to the generation of poisons in the bowel. It was useless to study the organ which happened to be affected by a poison so produced, or to treat one or more of the train of symptoms given rise to. Organic nervous diseases were constant. Where they were secondary, they would appear at intervals corresponding to the presence of the special conditions which gave rise to them. Among the various internal remedies which the speaker had used were benzoate of sodium, naphthaline, resorcin, creolin, salol, picrate of ammonium, bismuth, charcoal, nitrate of silver, and colomba. The natural antiputrefactive agents were the healthy digestive juices. One investigator had found dilatation of the stomach (an index to the condition treated of in the paper) in three tenths of all hospital patients. Intestinal putrefaction was, in the speaker's opinion, a prominent cause of phthisis, chlorosis, skin diseases, Bright's disease, rheumatism, and especially all sick headaches.

Dr. Van Valzah spoke of a lady who had been treated for a variety of brain affections. She had been subject, among other things, to attacks of epilepsy, lasting from three minutes to three hours, which were followed by the vomiting of the food she had taken during the twelve hours previous. She had been entirely cured by a better diet. He wished to know from Dr. Thomson what means he had of determining the particular drug to use—what symptoms, that is, indicated the employment of remedies other than the milk diet?

Dr. Thomson replied that for symptoms of gastric fermentation he gave a five-grain dose of resorcin at meal-time, and repeated it an hour after eating and at night. Where he found dilatation he washed out the stomach. In cases of intestinal fermentation, with morning occipital headaches and a tendency to early morning waking, he gave, when the patient went to bed, a capsule containing from two to four grains of salol and ten grains each of sodium benzoate and charcoal. In cases of fermentative diarrhœa he gave the same prescription, and ordered three or four doses a day; in cases of chronic dysentery he added to the foregoing two grains of naphthaline and a suitable dose of bismuth. Where there was peptic insomnia he ordered four drops of creolin with charcoal in capsules at bed-time. In vaso-motor paralyses with rapid heart action he recommended the greatest possible limitation of meat in the diet, and made fermented milk the staple, adding, three times a day, ten grains each of powdered colomba and bismuth carbonate. Small doses of ergot were notably efficacious in relieving sick headache.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN OBSTETRICS AND GYNÆCOLOGY.

*Meeting of January 24, 1889.*

Dr. J. E. Janvrin in the Chair.

**Removal of a Submucous Fibroid.**—Dr. R. G. Wiener reported a case of this sort. There had been considerable pain and hæmorrhage, and the appearance of a large mass at the os uteri. He had attempted removal with the écraseur, but had broken the wire in trying to sever the broad base by which it was attached. He had finally used the spoon-saw. With this and some manipulation he had removed the tumor, and the patient was doing well.

Dr. J. R. Goffe, who had assisted in the operation, remarked on the slight hæmorrhage which followed division of the stump. Submucous fibroids caused great discomfort to the patient, yet were easily removed; and their removal was followed by full relief, making it perhaps the most satisfactory simple operation in gynæcology. He had operated only where the tumors were pedunculated.

Dr. W. G. Wylie remarked that not all uterine fibroids were so easily removed as when attached by pedicles. Where they were deeply seated and not encapsulated, even if the os was widely dilated, it was easy to penetrate the uterine wall in attempting to free them by the spoon saw, as had happened several times. Here twisting and snipping with the scissors was a better method. When the capsule was distinct they came out completely. But otherwise there was much danger that a portion remaining after partial removal should suppurate, its vitality being just enough lowered to allow of this. Many patients had been lost thus. In reply to a question from the president as to what he did with the capsule, when there was one, Dr. Wylie added that after the tumor had been removed he pulled down the capsule and tied off all he could of it. He douched the cavity with very hot water, and allowed the remainder to stay. He had been compelled to use forceps to extract two or three very large fibroids, and once had been obliged to cut the perinæum.

**Some Unusual Complications in opening Pelvic Abscesses through the Vagina.**—Dr. J. R. Nilsen read a paper with this title, the discussion of which was postponed till after the reading of the following paper.

**The Treatment of Suppurative Disease of the Uterine Appendages.**—Dr. H. J. Boldt read a paper thus entitled, in which he endeavored to show that operative interference was positively indicated in certain cases of pyosalpinx about which there was apt to be too much difference of professional opinion as to the treatment called for. He remarked that, while many women had been deprived of their tubes and ovaries without the least benefit, and had had reason to regret having consented to being operated on, there was also a tendency to go to an extreme in the other direction. Cases were not selected with proper care which deserved general instead of operative treatment. Diseases of the uterine annexa might be roughly divided into three groups: 1. Those in which an operation was altogether unjustifiable. 2. Those where the effect of general treatment was to be watched for a time before an operation was considered. 3. Those where delay was not only inadvisable but dangerous. He wished to present several cases that had occurred in his own practice which had undoubtedly belonged to the third group.

1. A long-standing case of metritis and local peritonitis following confinement, with radiating pains, headache, cardiac palpitation, and dyspnœa; also, within five years previous, syphilitic infection had been superadded. Micturition had been fre-

quent, menstruation very profuse, pains very severe before the flow began, and some leucorrhœa after it had stopped. Examination had shown an indurated cervix tender to the touch, the uterus somewhat enlarged and sensitive, both tubes and ovaries much enlarged and prolapsed, and the surrounding structures very sensitive. A diagnosis of double salpingo-oophoritis syphilitica with endometritis had been made and an operation advised, unless treatment was soon followed by improvement. A little later a physical exertion had been followed after a few hours by violent pain in the epigastrium, accompanied by a fresh attack of pelvic peritonitis. Five days later general peritonitis had developed, the tubes had lost their full contour, and, instead, a fullness with excessive painfulness had been found on either side of the uterus. Although rupture of the tubes had evidently occurred, he had, unfortunately, not made up his mind to operate till the evening of the next day. The patient had survived the laparotomy only sixty hours; it had been deferred too long.

2. A case of catarrhal salpingitis of long standing in a woman of twenty-nine years, a sequel to scarlet fever at the thirteenth year. Severe pain had been suddenly developed in the lower part of the abdomen, had increased for a time, then subsided for several days, only to return accompanied by a temperature of 104° F., and a general peritonitis with chills and emaciation. Examination had been exceedingly painful, but had shown fullness and fluctuation to the right of the uterus. Rupture of a tube distended by pus being evident, laparotomy had been performed on the next day, the abdominal cavity had been washed, and dense adhesions removed. The hæmorrhage from the latter proving uncontrollable, and the author being forced to cut short the operation owing to the state of the patient, he had tamponed the pelvis with iodoform gauze. This had acted as both a drain and a hæmostatic. Thirty-six hours later he had unwisely replaced the gauze by a double-current rubber drainage-tube, and had washed out the abdominal cavity again through it. If he had closed it at once the patient would probably have recovered. There had been no odor. After some hours the pulse had become very feeble, but had been restored by raising the foot of the bed and irrigating the abdominal cavity with a warm solution of chloride of sodium (1 per cent.). On the third day the wound had begun to show an odor, and from that time on became increasingly fœtid, although irrigation had been continued without intermission. The patient had died on the fifth day. The only pathological change found at the autopsy had been diffuse nephritis; the abdomen had been clean and odorless, and the peritonitis decidedly diminished in extent. The foul odor of the washings was inexplicable to him. It was clear, however, that the operation had not been done early enough.

3. In this case a double pyosalpinx and endometritis of puerperal origin had followed a tedious labor eighteen months previously. The distended tube had been ruptured in sexual intercourse. Some vomiting and slight evidences of shock had presented on his arrival at the house. There had been marked tenderness over the entire abdomen, but no evidences of intense general peritonitis. Within two hours he had opened and cleaned the abdomen, removed both tubes, and closed the abdomen without drainage, although peritonitis had begun. Immediate and uninterrupted recovery had followed.

4. In this case, otherwise similar to No. 3, the operation had been done about five hours after the rupture of the greatly distended tubes, and a similar excellent recovery had followed.

5. In this instance, having found double pyosalpinx, he had advised an operation, but another physician had called such a procedure rash, and had assured the patient of improvement without it. Rupture had occurred three months later, an immediate operation had been declined, and death from general purulent peritonitis had quickly followed.

6. In this case he had used massage of the tubes after the method of Brandt, and had obtained marked improvement at once in the symptoms of the pyosalpingitis, which had followed a recent abortion. Nevertheless, six days later, without apparent cause, there had been a severe chill followed by general peritonitis, which, however, had almost subsided four days later. He had been apprehensive of the final result from the first, especially as the tubes had enlarged rapidly as soon as massage had been suspended (on account of the acute pain caused by it). He had brought an aspirator to the house, intending the next day to take the risk of emptying the tubes *per vaginam.* On the evening of the same day, however, rupture had taken place. He had found the patient three quarters of an hour later screaming with agony, cyanotic, with a high temperature and a feeble, frequent pulse. Forty minims of Magendie's solution had been given, counsel sent for, and preparations made for an operation. An apparently very rapid improvement which the patient had made had created enough doubt in his mind to make him wait for daylight to work by. In two hours she had begun to sink, and when morning had come, despite free stimulation, an operation was out of the question. The temporary rally made by the patient had also deceived an eminent specialist whom he had called in. The case had occurred in private practice. In a hospital or clinic he would not have hesitated a moment. It was unfortunate that in private practice operators were apt to be overborne by side considerations, such as unwillingness to sacrifice a chance of the patient's having children in the future, even when her own life was in imminent peril. The patient in this case had been only twenty-three years old. An earlier operation would easily have saved her life. He might in the future change his opinion, but with such cases as the foregoing in mind he unhesitatingly advised opening the abdomen in any similar condition, wherever occurring. If the diagnosis proved incorrect, the opening could be closed again, no harm was done, and great risks were avoided.

He believed the diagnosis of pyosalpinx could be made in most instances. It was found unexpectedly at autopsies quite as often as it was mistakenly operated for. Hydrosalpinx and hæmatosalpinx, ovarian and parovarian cysts, could frequently be distinguished by the history. He had believed for several years that patients with intractable hydrosalpinx should be operated on, since the disease easily became purulent; or, if the tube ruptured, might cause fatal peritonitis. He believed in operating in cases of pyosalpinx without waiting for rupture to occur. The danger was then far less. Health was restored entirely, which never could be done while the diseased tubes remained. The patient was taken out of a condition of constant peril and almost constant suffering. The high mortality which a prominent German operator had ascribed to the operation was mainly due to the fact that the operation was deferred until every other means had been exhausted and the condition of the patient was already critical. Furthermore, in case an exploratory incision showed hydrosalpinx or hæmatosalpinx and the tube was firmly occluded at some point, it should not be left in to undermine the health and jeopardize life. The chance of pregnancy in such a case was nil, the likelihood of absorption very slight, and that of return of the fluid after tapping great. Whether the tube was occluded or not could easily be ascertained by observing whether gentle stroking toward its outlet diminished its caliber. When a tube filled with pus could be emptied by gentle pressure he would advise *proper* massage (after Brandt's method), rest in bed, and careful tamponing; but he did not meet with such cases often, and believed them comparatively rare. Also, when a tube was only moderately distended (to about the size of the thumb) and no symptoms were given rise to, he did not favor an operation. Such a collection of pus might in time become inspissated, as occurred elsewhere in the body. But women with such a condition rarely consulted a surgeon or submitted to vaginal examination, even if it was proposed; and that was not likely to be done in the absence of symptoms of local distress. Aspiration of distended tubes was safe only when the operator felt sure of very firm adhesions about the site of the puncture. Some very greatly distended tubes due to puerperal infection gave no signs of their presence other than fever and emaciation. An examination should always be made in such cases, and an operation at once resorted to. It might be necessary to make an exploratory incision to distinguish this condition from the ordinary pelvic abscess in case there were extensive adhesions. It might not be possible without an incision to distinguish it from an ovarian tumor. Massage was a dangerous procedure in any but trained hands. Perhaps its main usefulness was to aid in diagnosis. Despite all he had said, no one was more averse than he to indiscriminate removal of the uterine appendages or more inclined to use every practicable means of saving young women from this (in one sense) degradation.

Dr. Wylie opened the discussion of the two papers by remarking that the reader of the first of them had spoken of tapping pelvic abscesses, as if they were themselves a disease and not a symptom. He thought the aspirator had done more harm than good in this department of gynæcology. "Curing" abscesses in the pelvis by aspiration might relieve symptoms and sepsis, but did not lead to a cure of the patient, that is, restoration to health, because that which had caused the abscess remained untouched. Then there were almost always two—one at least on each side. The most important fact to keep in mind in regard to them was that their frequency was entirely due to mistakes made during and after delivery. They would become less common, moreover, when salpingitis and pyosalpingitis were detected and treated earlier. He believed that, when they were found, no matter where they were situated, it was proper to open them through the abdomen, if the condition of the patient allowed and there was no sepsis. It could be done with a mortality of but one or two per cent. But if the sepsis was marked, then the danger of peritonitis after an operation was great, and we should then see if it was possible to puncture them behind the uterus. If it was, he would advise puncture, washing out, and subsequent operation. If they were out of reach, however, it was better to operate anyhow, not opening over the adhesions, but through a part of the abdomen free from these. A diagnosis could then be made and it could be seen whether an opening *per vaginam* was advisable. He used massage for diagnosis, but would not like to for treatment.

Dr. Paul F. Mundé remarked that pelvic abscess as he used the term was quite different from pyosalpinx, and meant an abscess in the cellular tissue. Under bimanual examination, any abscess in the cellular tissue was freely movable, whereas the uterus was fixed. On the other hand, any intraperitoneal exudation, especially into the tubes, whether palpable or not, allowed the uterus to be lifted up and down more or less. He had frequently verified this test by laparotomies. He did not agree to the statement that the aspirator had done more harm than good. The knife had also done harm. Whenever he was satisfied of the presence of a single pelvic abscess and could reach it, he aspirated and washed and drained the cavity.

Turning to the second paper, he would say that he entirely agreed with Dr. Boldt about operative treatment. He would, however, remove tubes filled with pus to the size of the thumb. The disease called pachysalpingitis (an increase of the connective tissue), which only Kaltenbach had described, always called for removal of the annexa. As to the diagnosis of pelvic tumors, he agreed that it was not always possible to make it bimanually. A woman who had grown tired of suffering had once forced him to perform laparotomy or leave her to call another surgeon who would. He had found hæmatoma of both ovaries as large as oranges, but with flaccid walls. He would remove the tubes and ovaries in all cases of hæmatosalpinx and hydrosalpinx. He had met with a case where the tubes and ovaries had been removed which proved to be one of polypoid endometritis which a single scraping might have cured. He did not deny that too much haste was sometimes used in proceeding to operate, and favored a certain amount of temporizing. But he was much dissatisfied with our present ability to make the diagnosis.

Dr. A. P. Dudley had treated two cases of true pelvic abscess by aspiration, and successfully. He thought it a valuable point in diagnosis that the pelvic abscess tended to dissect its way downward between the rectum and vagina, and not to rise into the abdomen. He would not use aspiration for an abscess in front of the uterus; he might for one in the iliac fossa. Pyosalpinx should not be called pelvic abscess, since it led to unnecessary confusion of terms. He thought a woman's station in life should not be allowed to influence the surgeon when her own life was at stake.

Dr. Boldt repeated that massage was suited to some mild cases. Brandt had told him that he had cured pyosalpinx by massage. He himself had never produced more than relief for a time. It was necessary to have the woman in a nearly sitting posture, with the abdominal walls relaxed and thin, and one finger behind the uterus as close to the tube as possible.

## NEW YORK SURGICAL SOCIETY.

*Meeting of January 9, 1889.*

The President, Dr. Lewis A. Stimson, in the Chair.

**Syringo-myelitis.**—Dr. Frank Hartley presented a man in whom he had been able to find no other explanation for a slow, progressive deformity of the hands, with loss of some of the phalanges by ulceration, except by supposing it to be the result of a syringo-myelitis. There had been little pain. Syphilis, tuberculosis, and leprosy had been excluded. In scattered parts of the areas of distribution of the median and ulnar nerves in the hand and arm there had been loss of the senses of temperature and pain, and of tactile sensibility. Vaso-motor changes had been of frequent occurrence from day to day.

Dr. Lange had once observed a similar case, where the ulceration and atrophy had involved the feet, with shortening of the toes by loss of some of the phalanges, and ulcerations on the soles of the feet. A Chopart's amputation had been necessary on one foot, and amputation of the toes on the other. He had also heard of a few cases where a similar atrophy had followed injuries of peripheral nerves, with painless ulceration and loss of one or more phalanges. The term *lepra mutilans* was sometimes used to designate this form of atrophy.

**An Operation for Pyelo-nephritis.**—Dr. Lange then presented a patient upon whom he had operated for pyelo-nephritis by a lumbar incision. The gain in weight and recovery of strength made by the patient since the operation had been most gratifying. The urine, which just after the operation had contained some albumin, was now normal. To the usual longitudinal incision he had added two transverse incisions—above and below. The upper one had followed the course of the eleventh rib (which was removed); the lower, the border of the ilium. The twelfth rib was so short that it had been disregarded. He had thus made a sort of flap. When it was lifted and turned forward, he had had an abundance of room in working on the kidney. When, in the third week, the ligatures were removed, some pus came away, but nothing was seen of the stump that had been included in them. The stump had been left without the capsule of the kidney, because the latter had been nearly absorbed and in places almost perforated. The stump had evidently been absorbed.

Dr. R. ABBE spoke of a somewhat similar case in which an early autopsy had shown that the portion of kidney tissue without the ligature had not spoiled, but had been imbedded in lymph without a trace of beginning disorganization.

**Injury of the Humerus.**—Dr. F. W. MURRAY presented a patient, seventeen years old, who, in consequence of a fall, had suffered a separation of the epiphysis of the humerus, with a dislocation of the upper end of the shaft inward beneath the coracoid process. The speaker had opened the joint in order to reduce the displaced parts, and had been compelled to remove three fourths of an inch of the shaft.

Dr. LANGE had met with a similar case, where coaptation had been made impossible by the tilting up of the edge of the lower fragment; and an operation had been necessary to effect reduction.

**Colo-colostomy, with a Substitute for Senn's Bone Plates.**—Dr. ABBE read a paper with this title. (It will be published in full.)

Dr. W. MEYER had been present at the operation, and could testify to the short time required to complete it as compared with the two hours or more needed for the old operation of colostomy, in which sutures were used to make coaptation. Dr. Senn, of Milwaukee, had done the same operation, using his bone plates, in less than twelve minutes. He thought that either Dr. Senn's plates or Dr. Abbe's rings should be on hand in all hospitals. In his own last case of colo-colostomy the operation has lasted more than two hours. After five days the man had begun to vomit fæcal matter and had become delirious without having fever. While in this condition the patient had broken open his wound and had died of hæmorrhage and peritonitis.

Dr. LANGE had done intestinal anastomosis in three cases (in one gastro-enterostomy and in two ileo-colostomy) before the method of union by bone plates or catgut rings had been brought forward. He thought the rings would be a good substitute for bone plates if (as Dr. Abbe had assured him) they brought into contact a sufficient area of the interposed surfaces.

**Gastrostomy for Cancer of the Œsophagus.**—The PRESIDENT showed a specimen, the stomach and œsophagus of a man upon whom last November he had done a gastrostomy for cancer of the lower end of the œsophagus and the adjoining portion of the stomach. At the time of the operation the patient had been so reduced by starvation that it was not thought possible that he could survive more than two or three days. The operation was done in two stages, the opening into the stomach being made twenty hours after the latter had been fixed to the edges of the incision in the abdominal wall. Through this opening the patient had been fed, first with milk and subsequently with solid food, and had survived the operation about five weeks, dying of the progress of his disease. About three weeks after the operation the œsophagus had again become pervious to liquids. The specimen showed the stomach firmly fixed in the abdominal wound and the opening healed all around.

In a second operation the stomach had been opened three days after its fixation in the abdominal wall, and, although the patient had died three days afterward from rupture of the œsophageal cancer into the trachea, the opening into the peritoneal cavity had been found to be solidly closed by adhesion between the opposing surfaces. He thought it was important to seek for early union of the cutaneous incision about the gastric fistula, and to drain the parietal wound only by its upper and lower ends, in order to avoid interference with primary union by leakage of the contents of the stomach.

**Gunshot Wound of the Brachial Artery.**—The PRESIDENT also showed a portion of the brachial artery of a man who had been shot in the arm with a pistol. Half of the portion of artery which lay in the course of the ball had been carried away. The accident was a rare one. In 80,000 cases of wounds by missiles recorded during the late war, only 45 had been put down as having shown partial wound of an artery.

**Ligation of the Uterine Arteries in their Continuity as an Early Step in Total or Partial Abdominal Hysterectomy.**—The PRESIDENT then presented two specimens removed by laparotomy—a large carcinoma of the body of the uterus and a uterus containing large fibroids. The circumstances in each case had compelled the choice of the abdominal method in preference to vaginal hysterectomy, but he was inclined to believe that the preference should be given to this method in many cases in which vaginal hysterectomy was possible, because in both instances he had found that the ligation of the uterine arteries beforehand greatly simplified and expedited the removal. In both cases also he had made a total removal, and he asked the opinion of those present concerning the relative advantages of removing and of leaving the cervix. In the first case (one of carcinoma of the body) the growth had spread anteriorly so as to involve a portion of the peritonæum covering the bladder, a circumstance which he thought would probably have made the removal necessarily incomplete if it had been attempted by the vaginal method. The operation had been begun in the usual manner, by multiple ligation of the broad ligaments and of the uterus below the tumor, with a view to possibly leaving the cervix as a pedicle. However, in the course of the operation he had sought for and tied the uterine arteries near the uterus, and had then found that he could remove the whole organ easily and rapidly with the knife and scissors, and with but slight hæmorrhage. The operation had thus been facilitated so much that in the second case he had proceeded at once to tie the uterine arteries. In this case two large fibroids had developed in the anterior wall of the uterus, the lower one extending so far down that the cervix could not be felt *per vaginam.* The uterus had been drawn out through the abdominal wound and the uterine arteries found by palpation of the posterior surface of the broad ligaments close to the cervix; the overlying peritonæum had been divided and catgut ligatures placed about the arteries. A silk ligature had next been passed around the outer border of each broad ligament well below the ovary, to secure the ovarian arteries. Both ligaments had then been cut straight across, and the incision prolonged across the peritonæum covering the back of the uterus, and across the lower fibroid anteriorly. Through this incision the fibroid, together with the adjoining part of the uterus, had been readily pushed out and the organ severed just above the cervix, thus facilitating the subsequent removal of the latter. This had been effected by lifting it with a volsella while a hole was made with a blunt instrument forced through into the vagina anteriorly, and by cutting round it with scissors. The bleeding had been insignificant. A comparatively slight reflux of venous blood from the divided edges of the broad ligaments had been easily controlled by the temporary use of a long-bladed clamp. In both cases the abdominal incision had been entirely closed, and drainage made through the vagina for the first three days. The first patient had now entirely recovered; the second (then in the fifth day) was doing well.

In all previous hysterectomies the speaker had left the cervix, and treated it extraperitoneally. In some of them cicatrization had been long delayed by the inevitable suppuration of the pedicle and the slow filling up of the funnel-like canal created by its retraction. He believed removal of the cervix preferable, unless it proved to have special disadvantages, such as defective retention of the intestines within the abdomen because of lack of support at the floor of the pelvis.

**The Prevention of Shock by Atropine.**—The President also recommended the hypodermatic injection of from $\frac{1}{75}$ to $\frac{1}{100}$ of a grain of atropine previous to giving ether for an operation. In the second of the two foregoing cases the woman had been etherized, so as to admit of a brief examination, a few days before the operation, and had come out of the influence of the anæsthetic in a deplorable condition, from which she had not rallied for several hours. For considerable periods the pulse had been very weak and even imperceptible. On the contrary, atropine having been given before the ether on the day of the operation, she was taken from the table with a pulse as good as before the operation began. The subsequent symptoms of shock had been very slight. He had used atropine for this purpose for five or six years, having first observed its control of the inhibitory action on the heart in certain physiological experiments. How much influence it exerted it was not always easy to determine, but he believed it to be of great value.

*Meeting of January 23, 1889.*

The President, Dr. Lewis A. Stimson, in the Chair.

**Rupture of the Kidney.**—Dr. C. K. Briddon presented a patient who had sustained this injury by falling fifteen feet from a scaffold and striking on his hands and left side. He was forty years of age and gave no specific rheumatic or alcoholic history. The urine had been bloody after the accident. On coming under the speaker's care, ten days after the accident, the man had been anæmic, sallow, and emaciated. Both wrists had presented the characteristic deformity of Colles's fracture. A tumor had been indistinctly felt through the abdomen, in the region of the left kidney. The urine had contained blood and pus. Five days later the tumor had increased in size, but the pain had lessened. The temperature ranged from 100° to 102° F. The urine was from forty to fifty ounces per diem in amount, and contained blood and pus most of the time. Eight days later the tumor had reached the size of an orange and was painful on pressure. The speaker had then operated, making a vertical lumbar incision four inches long. He had found the perinephritic tissue thickened from inflammation, and the circumrenal fat broken down. On opening the capsule there had been a slight escape of pus and coagulated blood, which had exposed a rent in the kidney substance. The finger being passed around the kidney, beneath the capsule, considerable thick granular pus had been discharged. After irrigating the wound with a one-per-cent. solution of creolin he had left a drainage-tube in the wound and applied a dressing. Pus had rapidly disappeared from the urine and the wound had quickly granulated. Eight weeks after the operation the patient had been discharged, quite restored in flesh and strength.

**Cuneiform Osteotomy for Talipes Equino-varus.**—Dr. Briddon also presented a boy, fourteen years old, who had been treated two years previously for club-foot in an orthopædic hospital where tenotomies were practiced. There he had received the usual treatment. He had afterward relapsed into complete talipes equino-varus, probably owing to his own negligence and failure to persistently use the apparatus furnished him. The speaker had removed a wedge-shaped piece of bone, made up of the external cuneiform, a quarter of an inch of the posterior surface of the cuboid, and a small portion of the neck of the astragalus, the calcaneo-cuboid articulation, and about three quarters of an inch of the anterior extremity of the os calcis. The base of the wedge had been on the outer side of the foot. The tendo Achillis had been lengthened by first splitting it from side to side into two flat bands for a distance of two inches, and then severing one band at the top of the cleft and the other at its base (cutting backward at one end and forward at the other). The heel being then brought down, the portions of the two bands which still overlapped had been joined together. The plantar fascia had also been divided. The result had been excellent; the boy walked well, and planted the sole squarely on the ground. However, it was the speaker's belief that he must continue to use a splint for support, else the deformity would be apt, with time, to return.

**The Treatment of Fracture of the Patella by a Subcutaneous Silk Ligature.**—The President showed two patients with recent fracture of the patella treated by subcutaneous silk ligature. During the preceding two months he had thus treated five patients with recent fracture, the two now presented being the first and third of the series. The second had been discharged cured; the fourth and fifth were still under treatment and doing well.

The method employed might be called a modification of the external silk ligature employed some years ago by Volkmann, and had been suggested and employed in the first two cases, under the speaker's supervision, by Dr. E. W. Clarke, house surgeon at the New York Hospital. It consisted in passing a silk ligature through punctures made in the skin, through the tendon of the quadriceps femoris and the ligamentum patellæ and under the skin in front of the patella, in such a manner that by drawing the ligature tight the two fragments of bone were drawn together. He employed a long half-curved Hagedorn's needle and a stout braided silk ligature. The four punctures (through the skin and the sides of the tendons) were made close above and below the patella—at its four corners, so to speak. The needle was entered at the lower right-hand corner, carried through the ligamentum patellæ to the bone, then across and out through the opposite puncture. This made a loop through the lower tendon. Then the needle was entered beneath the skin at its recent point of exit and carried upward between the skin and the front of the patella and brought out at the upper puncture on the same side. It then re-entered at this upper left-hand puncture through the tendon of the quadriceps, crossed beneath it, emerged at the opposite puncture, and thus made a loop through the upper tendon. The needle was then passed in at this fourth puncture (through the skin) and carried down under the skin and in front of the patella to emerge at the first puncture (where it had entered). The two fragments of the patella were then pressed into close apposition, the silk cord was drawn tight and tied, and its ends were cut short. The entire suture being thus subcutaneous, the punctures through the skin were closed with a single suture passed through each. It was not necessary that the ligature should include the entire width of the tendon, but it was sufficient if it embraced just enough to give it a firm hold. It should also be passed close to the attachment of the tendon to the bone, in order that it might not become slack by cutting through the tendon toward the bone, under the strain. The silk-worm gut was apt to break at sharp turns. Catgut became absorbed too soon unless treated with chromic acid. The union obtained was not bony, but a close fibrous union; however, this had been shown to be true of the union of the patella in most instances where examination had been made after death, even when the fragments had been wired together. He had in a single instance produced bony union after uniting the fragments with catgut. He applied only a simple posterior splint. The stiffness of the knee which patients at first experienced he was convinced was due to contraction of the internal and lateral ligaments of the joint and soon disappeared when the use of the limb was resumed.

In one case ten days had elapsed after the accident before the operation was done; in the others only a few hours. In the first case the needle had broken and a transverse incision had been made to remove the broken end. Silk-worm gut had been used in this case for a ligature, and its manipulation had been faulty. Twelve days later the fragments had been found to be an inch apart, probably owing to kinks forming in the ligature when first introduced. The operation had been repeated, this time silk being used. Suppuration had followed, but the process had remained extra-articular. After a month the silk suture had been removed through the sinus, and the silk-worm gut suture two weeks later. Since then the openings had closed rapidly. The patient could flex the knee nearly to a right angle and no separation could be felt.

In the second patient the fracture had been close to the upper border of the patella, and the patient had been discharged well in about six weeks. In the third patient (presented) the fracture had occurred five weeks before; he was now able to flex the knee to a right angle, and no separation of the fragments could be recognized. The fourth patient had been under treatment three weeks; there had been no inflammatory reaction, and the fragments were not separated. In the fifth case only two days had elapsed since the operation.

The speaker thought the method was to be recommended, not only because of its own merits, but also because it was an efficient and apparently much less dangerous substitute for open arthrotomy and metallic suture—a method which, although almost entirely abandoned in Europe, was still having numerous victims in America. He knew of three cases, of which no report had been made, that had occurred during the past summer in the hospitals of New York where, after that operation, the joint had suppurated, amputation had become necessary, and eventually the patients had died.

Dr. J. D. Bryant asked whether the method would be available where there was marked separation of the fragments with difficulty in making coaptation, or when there was an interposition of fibrous tissue, or when a firm blood-clot filled the gap.

Dr. G. A. Peters suggested, in answer to Dr. Bryant's first question, that four, six, or even eight separate loops could be passed and drawn together.

**Two Cases of Enterectomy.**—Dr. Briddon read a paper thus entitled (see page 255).

Dr. R. Abbe showed a specimen of intestine taken from a dog upon which he had performed resection some days previously, effecting union with the catgut rings described at the last meeting. The operation could be done on the human subject with their aid in from three quarters to half an hour, and thus the most serious danger in enterectomy be curtailed—namely, that of too prolonged an operation. The anastomosis between the intestines which were to be conjoined could be made as long as desired, and the catgut rings could be wound on two or more fingers to correspond in size. There was thus much more certainty of forming a free passage than after circular enterorrhaphy.

Dr. F. Hartley remarked that he had lately done the operation on the cadaver with bone plates in twenty-five minutes. He had found that Lembert sutures around the anastomosis externally increased the imperviousness of the union to fluids under pressure.

The President suggested that there were causes of death following enterectomy independent of the operation, or at least acting in parts distant from the wound in the intestine; for example, various functional disturbances in other organs. There might also occur a kinking of the gut near the point of operation, and this complication even the use of bone plates or catgut rings might not be free from. In a case of stabbing after which he had closed four wounds in the intestine with Lembert sutures the patient had done well for six days, but died in sudden collapse on the seventh. The post-mortem had shown but slight peritonitis, and the spots affected surrounded by adhesions, no escape of intestinal contents, the sutured parts firmly joined, but the intestine above distended and that below entirely empty. The passage had been obstructed in some unknown way, perhaps by sharp turns which the gut had made at that point.

**Intraperitoneal Rupture of the Bladder, with Absence of the Usual Symptoms.**—Dr. Briddon read the history of an obscure case of this sort. Laparotomy had been performed on the third day in the absence of conclusive indications. The pain had been intense and had radiated into the umbilical and hypogastric regions and the glans penis, the testicles had been retracted, the abdomen distended and rigid, the respiration purely thoracic, but the urine free from blood except just after admission. There had been some hiccough and vomiting, but a normal temperature. Renal colic, cystitis, peritonitis, and intestinal obstruction had each been thought of. The patient, until just before his death, had denied having received violence. After the suture of a rent which had been found in the posterior wall of the bladder, and the removal of several pints of fluid from the abdominal cavity, he had been free from pain, but had died exhausted after fourteen hours. In a case of extra-peritoneal rupture of the bladder reported by him in 1887, where the pelvic bones had also been fractured, he had made a suprapubic incision for the repair of the bladder, and the patient had recovered, but had never had an erection since.

Dr. Bryant and others spoke of instances in which rupture of the bladder had not given rise to definite signs, and in which Dr. Weir's test by injection had been inconclusive.

**Cystic Adenoma of the Breast.**—Dr. Bryant presented a specimen of this affection.

## Book Notices.

*Chemical Experiments for Medical Students*, arranged after Beilstein. By W. S. Christopher, M. D., Demonstrator of Chemistry, Medical College of Ohio. Cincinnati: Robert Clarke & Co., 1888. Pp. 6–7 to 84. [Price, $1.]

The medical student will doubtless find this little book serviceable in the laboratory. He will find space also to jot down his notes in a number of blank pages at the end of the book. We can heartily commend the little work to those for whom it was compiled.

### BOOKS AND PAMPHLETS RECEIVED.

Œuvres complètes de J. M. Charcot. Maladies des poumons et du système vasculaire. Tome V. Avec 51 figures dans le texte et 2 planches. Paris: E. Lecrosnier et Babé, 1888. Pp. 654.

Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie. Compte rendu du service des épileptiques et des enfants idiots et arriérés de Bicêtre pendant l'année 1887. Par Bourneville, médecin de Bicêtre, Sollier, Pilliet, Raoult, internes du service, et le Dr Bricon, conservateur du musée. Volume VIII. Avec 27 figures dans le texte. Paris: E. Lecrosnier et Babé, 1888. Pp. lix–263.

A Compendium of Dentistry for the Use of Students and Practitioners. By Jul. Parreidt, Dental Surgeon to the Surgical Polyclinic at the

Institute of the University of Leipsic, etc. Authorized Translation by Louis Ottofy, D. D. S., Lecturer on Physiology, Chicago College of Dental Surgery. With Notes and Additions by G. V. Black, M. D., D. D. S., Professor of Pathology, Chicago College of Dental Surgery. With Numerous Illustrations. Chicago: W. T. Keener, 1889. Pp. ix–229. [Price, $2.50.]

Intestinal Surgery. By N. Senn, M. D., Ph. D., Attending Surgeon, Milwaukee Hospital; Professor of Principles of Surgery and Surgical Pathology, Rush Medical College, Chicago, Ill. Chicago: W. T. Keener, 1889. Pp. vii–269. [Price, $2.50.]

Rectal and Anal Surgery, with Description of the Secret Methods of the Itinerant Specialists. By Edmund Andrews, M. D., LL. D., Professor of Clinical Surgery, Chicago Medical College, etc., and Edward Wyllys Andrews, A. M., M. D., Professor of Clinical Surgery, Chicago Medical College, etc. Second Edition, revised and enlarged, with Illustrations and Formulary. Chicago: W. T. Keener, 1889. Pp. xiv–140. [Price, $1.50.]

Diseases of the Skin associated with Disorders of the Female Sexual Organs. By George H. Rohé, M. D., Baltimore, Md. [Reprinted from the "Buffalo Medical and Surgical Journal."]

# Miscellany.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending March 2d:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y. | Feb. 23. | 1,555,604 | 870 | .. | .. | .. | .. | .. | .. | 4 | 58 | 52 | 12 | 15 |
| Philadelphia, Pa. | Feb. 23. | 1,040,245 | 347 | .. | .. | .. | .. | .. | .. | 18 | 11 | 7 | 1 | 4 |
| Chicago, Ill. | Feb. 23. | 830,000 | 246 | .. | .. | .. | .. | .. | .. | 2 | 5 | 22 | 4 | 2 |
| Brooklyn, N. Y. | Feb. 23. | 814,505 | 341 | .. | .. | .. | .. | .. | .. | .. | 12 | 19 | 9 | 10 |
| Baltimore, Md. | Feb. 23. | 500,343 | 178 | .. | .. | .. | .. | .. | .. | 2 | .. | 2 | .. | 2 |
| San Francisco, Cal. | Feb. 15. | 330,000 | 110 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .... |
| Cincinnati, Ohio. | Feb. 23. | 255,139 | 103 | .. | .. | .. | .. | .. | .. | 8 | .. | .. | .. | .... |
| Pittsburgh, Pa. | Feb. 23. | ........ | 67 | .. | .. | .. | .. | .. | .. | 1 | 2 | 4 | 2 | 3 |
| Washington, D. C. | Feb. 23. | 225,000 | 102 | .. | .. | .. | .. | .. | .. | 4 | 1 | 2 | .. | 3 |
| Kansas City, Mo. | Feb. 23. | 180,000 | ...... | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .... |
| Newark, N. J. | Feb. 19. | 179,139 | 94 | .. | .. | .. | .. | .. | .. | 5 | .. | 2 | .. | 1 |
| Providence, R. I. | Feb. 23. | 127,000 | 51 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .... |
| Rochester, N. Y. | Feb. 23. | 120,000 | 44 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 |
| Denver, Col. | Feb. 22. | 100,000 | 26 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Toledo, Ohio | Feb. 22. | 80,000 | 19 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Nashville, Tenn. | Feb. 23. | 65,153 | 15 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Fall River, Mass. | Feb. 23. | 65,000 | 26 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .... |
| Charleston, S. C. | Feb. 23. | 60,145 | 30 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Lynn, Mass. | Feb. 23. | 50,000 | 22 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Manchester, N. H. | Feb. 16. | 42,000 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me | Feb. 23. | 40,000 | 14 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Wheeling, W. Va. | Feb. 16. | 35,000 | 5 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .... |
| Davenport, Iowa. | Feb. 23. | 33,715 | 11 | .. | .. | .. | .. | .. | .. | .. | .. | 6 | .. | .... |
| E. Saginaw, Mich. | Feb. 23. | 33,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa. | Feb. 16. | 30,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Auburn, N. Y. | Feb. 23. | 26,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass. | Feb. 23. | 25,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newport, R. I. | Feb. 21. | 22,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newton, Mass. | Feb. 23. | 21,553 | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**The Health of the State of New York.**—According to the State Board of Health's "Monthly Bulletin" for January, the whole number of deaths reported was 8,437, including 35 from cerebro-spinal fever, 89 from typhoid fever, 51 from malarial diseases, 15 from small-pox, 242 from scarlet fever, 164 from measles, 29 from erysipelas, 195 from whooping-cough, 606 from croup and diphtheria, 101 from diarrhœal diseases, and 77 from puerperal diseases.

**Recent Advances in the Preparation of Pepsin.**—In the "Medical News" for February 16th we find an elaborate article by R. H. Chittenden, Ph. D., professor of physiological chemistry in Yale University, entitled "Observations on the Digestive Ferments." According to the author's observations, such a well-known preparation as Boudault's pepsin is far inferior in proteolytic power to several of our American pepsins. Assuming, for example, the proteolytic action of Parke, Davis, & Co.'s "pepsinum purum in lamellis" to be 100, that of Boudault's preparation is found to be only 14.

**The New York Academy of Medicine.**—At the next meeting of the Section in Surgery, on Monday evening, the 11th inst., Dr. W. W. Van Arsdale will read a paper entitled "Subluxation of the Head of the Radius, with a Résumé of One Hundred Consecutive Cases."

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 14th inst., Dr. H. N. Vineberg will report "A Case of Laryngismus Stridulus and Eclampsia associated with Rhachitis"; Dr. A. Jacobi will reply to Dr. O'Dwyer's question, "By what Force is a Collapsed Lung inflated while freely exposed to Atmospheric Pressure through an Opening in the Pleural Cavity?"; Dr. C. H. May will read a paper on "Scarlatinous Otitis"; and Dr. A. Brothers will read "A Report of 1,000 Consecutive Cases of Diseases of Children, with Special Reference to Treatment."

At the next meeting of the Section in Orthopædic Surgery, on Friday evening, the 15th inst., Dr. A. M. Phelps will present a case illustrating the management of hip-joint disease.

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

THE NEW YORK MEDICAL JOURNAL, March 16, 1889.

## Original Communications.

### RESECTION OF GANGRENOUS INTESTINE OCCURRING IN STRANGULATED HERNIÆ,

*WITH THE REPORT OF A SUCCESSFUL CASE.*[*]

By A. J. McCOSH, M. D.,
ATTENDING SURGEON TO THE PRESBYTERIAN HOSPITAL, NEW YORK.

What is the best method of dealing with intestine which has become gangrenous from constriction in a hernial sac? So much has been written on the subject of strangulated hernia that we might expect a definite answer to this question. Such, however, is not the case. In the numerous elaborate papers on this subject much uncertainty and difference of opinion will be found to exist. In most of our text-books decided opinions are expressed as to the advisability of returning the gut, or the propriety of dividing the stricture; but, when they discuss the treatment of a loop of intestine whose condition forbids its return into the abdominal cavity, vague generalities often take the place of definite rules. If decided opinions are expressed on this point, they are so little in accord that the conclusion is apt to be formed that the final decision of this question has not yet been reached. The reason of this doubt and disagreement is probably found in the fact that only within the past few years have there been published a sufficient number of carefully reported cases from which inductions could be drawn. Although more or less complete accounts of a series of operations performed for this condition have been published, yet no article has appeared in recent years which has gathered together the various isolated cases and grouped them in such a manner that from their analysis we could derive conclusions which would aid us in the management of similar cases. On the other hand, many valuable papers have appeared which deal with the results of the different operative procedures which have been employed when a portion of intestine has been removed because it was the seat of malignant disease. Recently Dr. Weir[†] has read an exhaustive paper on this subject before this society, and in Germany the articles of Madelung[‡] and Rydygier[#] have brought out all possible facts with reference to the different operations when performed for cancer of the bowel. No one, however, has written up the other branch of the subject since this task was performed so elaborately by both Reichel[‖] and Mackin[△] some five or six years ago.

When a loop of intestine in a strangulated hernia is found to be gangrenous, and when its return into the abdominal cavity is out of the question, the main point at issue is whether it is best to establish an artificial anus or, after resection, to restore the continuity of the gut by means of immediate suture. One of the three following plans must be adopted: 1. The gangrenous intestine may be left in the wound and nature be allowed to form the artificial anus. 2. After removal of the gangrenous portion, the divided ends may be sutured in the wound and a carefully formed anus be established. 3. The sphacelated portion may be resected and the cut ends united at once by suture, and the intestine returned into the abdominal cavity. If either of the first two plans be adopted, but one step in the procedure is accomplished, and, with but few exceptions, the continuity of the intestinal canal must be restored by a subsequent operation.

The preponderance of authority at the present time seems to be in favor of the formation of a temporary artificial anus. In a recent discussion on this subject at the Medical Society of London most of the debaters, including, among others, Banks, Baker, and MacCormac, agreed that primary resection and suture were suitable in only comparatively few cases, and that, as a rule, the preferable plan was to divide the operation into two steps. Treves[*] says: "It may be said, therefore, that in resecting the intestine a temporary artificial anus should always be established, and the suturing of the bowel left to a future period." He makes one exception to this rule where the resected portion is high up in the jejunum, in which event immediate enterorrhaphy should, if possible, be performed. Reichel,[†] in an elaborate paper on this subject, holds that the danger of primary intestinal suture in gangrenous hernia is greater than the existence for a short time of an artificial anus. His opinion should have special weight, as it is based on a critical study of fifty-six cases which he has collected. In the majority of text-books that express any decided opinion on this point the advice is generally given to establish a temporary artificial anus.

On the other side there are surgeons who are in favor of doing the primary operation in nearly all cases. Kocher is the most powerful advocate of this method of treatment, which he thinks is the safest and wisest to carry out in the great majority of cases, provided that the patient can have the benefit of a skillful surgeon. He does not stand alone in this position, for there are other good operators who have the same preference for this course, although they do not urge it upon others in such a decided manner.

Between these two extremes there is a large class of writers who either do not feel certain as to the best course to adopt, or who recommend in some cases the primary and in other cases the double operation. This latter view is well expressed by Wyeth[‡] when, in speaking of the treatment of gangrenous intestine, he says: "If the patient is in good condition, and especially if in the prime of life and usefulness, exsection should be done. If, on the other hand, collapse is imminent, or if there is anything in the condition of the patient to contra-indicate a prolonged operation, the fæcal fistula should be established."

I think unquestionably that the most potent factor in the decision ought to be the condition of the patient. In many cases there can be no choice. To prevent death from collapse, the operation must be completed in as rapid a manner as possible, and this is best accomplished by the mere fixation of the gut in the wound. Whether or not at this time an incision is made in order to allow the intestinal contents to escape is a matter of little moment, as, if the opening is not made by the surgeon, the same result will be accomplished by sloughing and perforation in a few hours. This, however, is a debatable question, as is also that of the propriety of dividing the stricture at the neck of the sac. There are other cases, however, where the condition of the patient before operation is not so desperate, which open the question whether it would not be better for the surgeon to remove the sphacelated portion of intestine and, by fastening the open ends in the wound, form an artificial anus. Such an anus is generally considered to be more satisfactory than one which nature has been allowed to form, although the latter is more apt to heal spontaneously. It is, however, in the treatment of yet another class of cases that there is most uncertainty and disagreement as to the best plan to adopt. It is when the patient's condition is sufficiently good to promise the probability of his being able to undergo a somewhat prolonged operation that the advisability of performing resection with immediate suture of the divided ends demands consideration. There can be no question but that this is the ideal operation, bringing about, as it does, an immediate closure of the intestinal canal and avoiding the long-continued and dangerous treatment which the existence of a false opening generally demands. More than this, if the radical cure of the hernia be at the same time accomplished, as should certainly be attempted, the patient is saved from any further discomfort and danger from this source.

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[*] Read before the New York Surgical Society, December 26, 1888.

[†] "Med. News," 1886, p. 173.

[‡] "Arch. f. kl. Chir.," Bd. xxvii, p. 32.

[#] "Berlin. kl. Wochenschr.," 1881, p. 593.

[‖] "Deut. Zeitschr. f. Chir.," vol. xix.

[△] "St. Thomas's Hosp. Rep.," vol. xiii, p. 181.

[*] "Intestinal Obstruction," p. 492.

[†] "Deut. Zeitschr. f. Chir.," vol. xix, 1884.

[‡] "Text-book on Surgery," p. 507.

From a careful review of the literature on this subject, my own feeling is that this operation might be more frequently resorted to than is now customary, yet I do not believe that it is the wisest procedure to adopt in the majority of patients, because so often their condition has been allowed to become so desperate before a herniotomy is done that they are unable to endure the somewhat severe shock which inevitably accompanies this plan of treatment.

In the following case which I will report the result was a happy one, even though some of the conditions considered necessary for success were not present:

Mrs. V., a German woman, sixty-six years of age, was admitted into my service in the Presbyterian Hospital at 4 P. M. on June 5, 1888. She gave the history of having always enjoyed good health, and of being afflicted with no ailment until about a year before, when she first noticed a lump in her left groin which had never entirely disappeared. She had never worn a truss, and had suffered no discomfort until some forty-eight hours before admission, when she first experienced pain in the mass, which increased in severity up to the time of her entrance into the hospital. Vomiting had commenced some twelve hours before, and continued with increased frequency. There had been no movement of the bowels for forty-eight hours. Several futile attempts to reduce the hernia had been made by her physician, Dr. Ellison, who then wisely decided that the case was one for immediate surgical interference.

On her arrival at the hospital the patient was in fairly good condition. She had frequent projectile vomiting, the vomited matter being of a dark-greenish color, but without fæcal odor. She complained of severe pain in her right groin, where was found a hard, elastic tumor about the size of a hen's egg, painful on pressure. Tympanitic resonance was present in the tumor. The skin covering it was reddened and discolored. No impulse could be obtained when the patient coughed. Temperature was 99¼°, pulse 108. The house surgeon recognized at once the nature of the swelling and made no attempt to reduce the hernia.

At 6.30 I saw the patient, and found her considerably prostrated and vomiting almost constantly. Her pulse was 112. Ether was at once administered, and, after the usual shaving and cleansing of the lower part of the abdomen, an incision three inches long was made over the tumor. Before reaching the sac a layer of purplish, œdematous, adipose tissue was encountered. On cutting through this the sac came into view. It was tense, of blackish color, and at first sight appeared like the intestine. Slight manipulation lacerated it, allowing to escape a drachm or two of badly smelling dark fluid. A loop of intestine was now seen, being of ashen color, variegated with purplish patches. The surface looked dull and soggy, and the usual glistening appearance was entirely absent. The point of constriction was sought for and found to be at the external ring. This nipped the knuckle of gut so tightly that it was with difficulty that my finger-nail could be forced under it. By gently insinuating a sharp-pointed bistoury the external abdominal aponeurosis was freely cut upward and the constriction relieved. The gut was now drawn downward and the constricted loop found to be about three inches long. At each end was a very deep furrow around its entire circumference, caused by the pressure at the external ring. One of these furrows was so deep that the circumference at its bottom could not have measured more than a fourth that of normal intestine. Beyond this there was considerable distension due to accumulation of fæcal matter and gas. At the other extremity the furrow was less marked, and beyond it the gut appeared collapsed. Through the tighter stricture gas, but no fæces, could be forced. Any attempt to stretch the furrowed portion was useless and would have been unwise. The appearance of the serous coat of the intestine was not such as to allow of its immediate return, and, in order to derive more certain information as to its state as well as that of the stricture, a longitudinal incision long enough to admit the finger was made in the gut. A few drops of liquid fæces and some gas escaped. The mucous membrane was seen to be agglutinated in places with that of the opposite wall, and there were numerous black patches where the membrane was quite rotten. In passing the finger into the gut at the tightest furrow, its lumen was found to be almost completely obliterated, so that a grooved director would scarcely pass through. By means of an artery clamp it was stretched so as to admit the finger, when abundance of liquid fæces and gas poured out. Before this was done, however, the intestine had been well pulled out so that the gangrenous portion was well away from the wound, which had been packed with hot towels and sponges wrung out in bichloride-of-mercury solution (1 in 5,000). All through the operation every precaution was taken to prevent the entrance of any septic material into the peritoneal cavity.

It was evident that the entire loop must be exsected and the cut ends be united at once, or a temporary artificial anus established. As the patient had thus far stood the operation well, and as she seemed to have sufficient vitality to undergo the longer procedure, I proceeded at once to do a resection and enterorrhaphy.

The abdominal incision was somewhat extended and the intestine drawn out still further, so as to permit of free manipulation. The house surgeon, Dr. Madill, held up the gut, his fingers grasping it at points some two inches beyond the furrows and at the same time closing its caliber. I then divided the gut well beyond the furrows, about four inches being removed. A triangular portion of mesentery, its base corresponding to the resected intestine, was taken with it, being careful to allow the mesentery to project slightly beyond the cut ends of intestine, in order to prevent any separation from its blood-supply. The hæmorrhage from the cut mesentery was slight and needed only compression with artery clamps, no ligatures being used. The mesentery was then sutured with a continuous catgut thread. The intestinal ends being approximated by Dr. Madill, the mucous membrane was seen to project about an eighth of an inch beyond the other coats. The cut ends were then united with two rows of sutures. The inner included only the mucous membrane, and consisted of interrupted stitches of Chinese silk with the knots (except the two last) left inside the bowel. They were introduced at intervals of about a tenth of an inch. After the cylinder of mucous membrane was united, a row of Lembert's sutures of fine catgut was introduced through the serous and muscular coats only. These were also interrupted and placed at about the same interval from one another. A fine round cambric needle was used, being introduced about a sixth of an inch away from the edge, passing through the muscular coat for about an eighth of an inch, and again emerging through the serous coat about a twelfth of an inch distant from the cut edge, and then inserted on the other end in inverse manner, thus inverting and bringing into apposition a rim of the peritoneal covering of the intestine about an eighth to a tenth of an inch around its entire circumference. When this row was completed, another partial row of similar sutures was employed in order to pick up and bring into contact still more of the serous coat where the junction did not appear very perfect. The intestine was then thoroughly irrigated with hot bichloride solution and returned into the peritoneal cavity.

The sac, which was partially gangrenous, was extirpated, the peritonæum sutured with catgut, and then the muscles and skin, a drainage-tube being placed in the lower angle of the wound, but extending only down to the muscular layer. An antiseptic dressing was applied. The operation lasted an hour and twenty minutes. The patient suffered comparatively little shock, and rallied quickly with but little vomiting. She was given a third of a grain of morphine hypodermically. On the next morning (June 6th) she complained of but little pain. No nausea or vomiting, and no prostration. Pulse 90, temperature 100·5°.

On that night the temperature rose to 103°; the pulse remained, however, under 100, and the patient appeared well and comfortable. On the next day (June 7th) temperature had fallen below 101°, pulse 92. The wound was dressed; a slight purulent discharge came from the tube, which was removed and iodoform gauze substituted. Thus far the patient had been allowed only ice, but toward evening she was given beef extract in small quantities.

On June 8th, at the end of sixty hours, temperature 100°, pulse 92; complains of no pain and feels well. At the expiration of the third day she was allowed small quantities of matzoon, which she takes with relish and without the production of nausea or flatulency. Up to this time the patient had been given small doses of morphine hypodermically. These were now discontinued. On the fifth day her bowels were moved by injection, the passage being natural and no blood was present. Her temperature was now about 99° and pulse 90. A moderate purulent discharge came from the lower angle of the wound.

On the eighth day her bowels were moved freely by a saline cathartic, and from this time she was gradually allowed fuller diet. At the end of the third week the wound was entirely healed and the patient sitting up. She left the hospital a well woman a week or two later. I have seen the patient within the past week (six months and a half since the operation), and she reports herself as being in perfect health. There is no return of the hernia. Her bowels are regular and the movements natural.

In this case I endeavored, principally on account of the age of the patient, to complete the operation as rapidly as was consistent with proper attention to details. I consider that, especially in aged patients, this is quite important. I feel little doubt but that this patient would have succumbed to shock had double the time been taken to complete the operation.

The suture employed was very much the same as that known as the Czerny-Lembert. This, or some modification of it, is at present the most popular, and apparently gives the best results. The old plan of invagination is now seldom used, and the more complicated sutures have no special advantage. I feel that interrupted sutures, though more tedious to apply, are yet the safest. According to this method, two rows of sutures are employed, the inner uniting the mucous membrane and the outer being the original Lembert suture by means of which considerable surfaces of the peritoneal coat are inverted and brought into apposition. It is this outer layer of sutures which favors rapid and strong union, the closing of the mucous coat and its inversion being done more to serve as a protective covering or a sort of buttress to prevent the intestinal contents from coming in contact with the real line of union. Though I think that the inner row is undoubtedly of advantage, yet without it very many cases have been carried through successfully. The mucous membrane as a means of union is esteemed so lightly by certain operators that they recommend that its projecting portion be cut off and all the coats made even before the suturing is commenced. This seems to me to be a mistake, as even when not sewed its mere inversion must form a useful covering to the main line of suture.

As regards the material, it makes little difference whether silk or catgut be employed, provided it be aseptic. A fine, round needle is generally preferable, the intestinal wall offering but little resistance to its introduction. Special forms of intestinal needles, such as that of Hagedorn, are also employed with equal satisfaction.

What is, however, more important than either the needle or the material, is the character of the tissue through which the sutures are passed. If the circulation of this is impaired, every attention to the details in adjusting the stitches will be of no avail. As it has been expressed, "where one sews is more important than how one sews." Not only must the sutures be introduced in sound tissue, but the greatest care must be taken that no part of the intestine be united which is separated in the minutest degree from its mesentery. In the case reported, as is very commonly done, I removed a wedge of the mesentery, its base corresponding with the exsected gut. I do not think now that this is the best practice, and in future I should cut off the mesentery close to its attachment along the border of the intestine, and allow the resulting fullness to arrange itself in folds, perhaps uniting the lower angle with a few sutures. When a wedge is removed, the further away the cut is made from the gut the larger the arteries which are severed, and, as the branches of these vessels spread out in a fan-shaped manner, many of them may be needlessly cut off from the main source from which comes the blood which they carry to the intestinal walls. Now, this same portion of intestine may not have been removed, and to deprive it at such a time of a certain proportion of its blood-supply may be followed by disastrous consequences. This may be of no significance when only a few inches are removed, but when a longer exsection is made the wedge must be correspondingly deeper, and the greater will be the number and size of large arterial trunks which must be divided.

For closing the caliber and holding the ends of the gut many ingenious clamps have been invented. I found, however, that the fingers of my house surgeon performed this task in a most satisfactory manner. Without skillful manipulation on the part of one's assistant I can quite understand how some mechanical device might be preferable.

My reasons for preferring immediate resection and suture were the following: 1. The patient's condition seemed to be such as to give reasonable promise that she could withstand the shock of the operation. 2. The dividing-line between healthy and gangrenous gut was so clearly defined, and the circulation of the intestinal wall beyond the furrows appeared so good, that I felt encouraged to believe that tissues could be brought into apposition which were in condition to favor rapid primary union. 3. As the sphacelated portion was part of the small intestine, and as the patient was old and not particularly well nourished, I feared, if a temporary anus was established, that before it could be closed her strength would be so diminished as to offer but little prospect of a successful result.

This leads me to discuss briefly the advantages and disadvantages of the two operations. The strong point in favor of immediate resection and suture is that, if recovery results, the patient is cured and no further surgical procedure is demanded. If, on the other hand, an artificial anus be established, but one step toward cure has been effected. In the great majority of cases the opening is situated at a point which does not permit the food to be brought into contact with a sufficient length of the intestinal canal to properly nourish the patient. Hence inanition results in very many cases, and in not a few cases death, before an attempt can be made to close the artificial anus.

In a small number of cases, however, the opening is at such a point that nutrition continues unaffected and no secondary operation is demanded to prevent death from starvation. Such patients, nevertheless, are afflicted with a disgusting deformity which is constantly forcing itself not only on their own attention but on that of their family and friends. When a colotomy has been done because of malignant disease, the patient will endure the presence of his false anus with patience, for it prevents suffering and prolongs his life. It is quite otherwise when no advantage is to be gained from the persistence of such an opening, and the patients will generally demand its cure even with a full knowledge of the dangers of the operation necessary to effect this result.

Cases, however, are comparatively few where the artificial anus can be allowed with safety to remain. Besides the dangers of malnutrition, there is increased liability to intestinal disease and to obstruction in one form or another. Kocher * states that of his seven patients with artificial anus resulting from gangrene of the intestine, all have died, and that in every case that he has seen this condition has in some manner caused death at a longer or shorter interval.

The exact extent of intestinal surface with which the food must come in contact in order to nourish the patient has, as far as I know, never been determined. The dividing-line seems to be at a point somewhere about the middle of the ileum. Riedel † relates a case where the anus was situated half way between the duodenum and cæcum, some three metres and a half from the pyloric end of stomach, and in this patient inanition resulted so rapidly that at the end of twelve days, as a last resort, he was forced to operate, the result, as expected, being unsuccessful.

On the other side, however, there are grave disadvantages connected with the primary operation. 1. It is undisputed that, being necessarily a more protracted operation, the danger of death from shock or collapse is greater than when an anus is formed. The operation is one that requires so much attention to detail and so many sutures must be accurately placed that it must always be a somewhat lengthy procedure. The usual length of time taken for its performance in the cases I have collected has ranged between an hour and a half and two hours, though in some cases three and four hours have been found necessary. 2. The second great objection is found in the fact that the intestine is not in a condition which is most favorable for rapid primary union. The line of demarkation between healthy and gangrenous gut is not always well marked, and often the shading is so gradual that it is difficult to determine at what point we can trust its circulation. Not only is a circulatory disturbance of uncertain limits caused by the distension and constriction, but also a so-called paralysis of the bowel is apt to be the result of these two conditions. That the disturbance of the circulation of the gut extends often some distance beyond either the seat of constriction or the limit of the gangrene can not be doubted. At the time of operation these changes may not be noticeable, and it is in this circumstance that the danger lies, for ends of intestine may be united which afterward become sphacelated. This danger is not imaginary. A number of deaths have resulted from this accident. Kocher ‡ reports a case where, on autopsy, gangrene of the gut 10 ctm. above the line of suture was revealed as the cause of the fatal septic peritonitis, and in a patient of Taendler's # six inches of intestine were found to be in a similar state.

Reichel, in his exhaustive paper on the treatment of gangrenous hernia, makes a strong argument against the primary operation on the ground of this uncertain condition

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* "Correspondenzbl. f. schweiz. Aerzte," March 1, 1886.

† "Deut. med. Wochenschr.," 1883, p. 656.

‡ "Ctrlbl. f. Chir.," No. 29, 1880.

# Madelung, "Arch. kl. Chir.," Bd. xxvii, p. 32.

of the intestine in the neighborhood of the stricture and as a result of overdistension. There can be no doubt but that there is truth in his claim that it is safer to wait until the intestinal wall shows what its condition is to be before applying the sutures.

It seems to me that often the fatal results from these causes might be avoided. I find in the reports of cases that often the surgeon has endeavored to remove as small an amount of intestine as possible, and that he has been contented with the fact that the separation has been made well beyond the stricture and the gangrenous portion. It is undoubtedly wise not to uselessly sacrifice any portion of the intestine, still the removal of a few inches more or less can have no effect on the after-nutrition of the patient, and can have none but a beneficial influence on the union of the cut ends. Within certain limits, the results of operations where a considerable length of intestine has been removed are just as favorable as where but two or three inches have been exsected. Perhaps, when over four or five feet has to be removed, the question of loss of absorbent surface ought to be considered, but there are numerous cases where over this amount has been resected without deleterious effect on the patient. Thus Kocher * removed 1 m. 60 ctm., and Koeberle † resected 2·05 m., and in neither case was there any appreciable change in the nutrition of the patients. If, on careful inspection of the ends when ready for suture, there is the slightest suspicion that the circulation is not perfect, then more of the gut should be boldly removed until a point is reached where the intestinal wall is in good condition. If this can not be found, then the case is not an appropriate one for this operation.

It is hardly excusable to have gangrene resulting because of separation of the mesentery. Tesas ‡ has shown that, if the mesentery is separated, even for the shortest distance, close to its intestinal attachment, gangrene of that portion of the gut is sure to follow unless it be at once resected. When the separation takes place at a certain distance—say, two to three centimetres—from its line of attachment, it may be of considerable length without endangering the vitality of the gut.

To escape in part from some of the dangers of both operations, Riedel # recommends that the gangrenous portion be fastened away from the wound well down on the thigh, and that it be left in this situation until the next day, a free incision having been made to allow the intestinal contents to escape. At the end of this time the bowel will have recovered its contractility, the distension will have been relieved, and it will be easy to determine at what point the blood-supply is abundant. Another advantage is that the operation of suturing can generally be carried out without the use of an anæsthetic. If a longer time, as is generally recommended, is allowed to elapse before the secondary operation be attempted, anæsthetization becomes a necessity. This plan strikes me as one that would be most appropriate in certain doubtful cases.

The final decision must rest, however, on the death-rate of the different operations. If either method is attended by a smaller mortality than the other, then this is the one to adopt. All statistics agree that the operation of enterorrhaphy, performed for closure of an artificial anus, is less dangerous than the operation of immediate resection and suture done for gangrenous intestine. For the former operation the mortality in both Makin's table * of thirty-nine cases and in Reichel's † thirty-seven cases is computed as being about 38 per cent. For the latter operation Makin calculates a death-rate of 52 per cent. in fifty-five cases, and the figures of Reichel in fifty-six cases and of Madelung ‡ in forty-four cases are practically the same. I have been able to collect accounts of one hundred and fifteen cases where the operation of resection and suture has been at once carried out in the treatment of intestine found gangrenous from strangulation in herniæ. Out of these cases fifty-seven died and fifty-seven recovered (one was doubtful). This gives a mortality of 50 per cent. This result differs but little from the 52 per cent. which other writers have computed from a smaller number of cases. I have been careful to exclude all cases where the suturing was not done at once, and no case is mentioned unless a cylinder consisting of the entire circumference of the gut had been resected. The death-rate of the operation of resection for cure of artificial anus is 38 per cent. I find that writers often compare these two rates in their endeavors to decide which is the preferable operation. This is unjust. In such a calculation they forget to reckon the deaths due to the operation of kelotomy and formation of the anus, and the dangers to which a patient is exposed before the anus can be closed. If we would judge fairly from statistics, we must add together these three mortalities, and compare the sum-total with our 50 per cent. It is difficult, however, to ascertain how many patients succumb to the original operation, or as the result of the establishment of an artificial anus before it can be closed. Cases fatal from either of these causes are apt not to be reported. Schmidt,# in an analysis of three hundred and eight cases where kelotomy was done for strangulated hernia, and where the gut was simply returned, found that 27·4 per cent. died. If, then, for the sake of calculation, we were to place the death-rate of the primary operation at 20 per cent., it would not, I think, be excessive. Of the number who die before the anus can be closed, certainly 5 per cent. would be moderate. The sum of these mortalities is 63 per cent., which we have computed as the death-rate resulting from operations for gangrenous herniæ where a temporary artificial anus has been established. Of course, to some extent this reasoning is theoretical, and, in order to strengthen it, I collected reports of one hundred and twenty cases which had been treated in this manner. Sixty-two of the patients died from the effects of operation or as the result of the anus, and fifty-eight recovered, giving a mortality of about 52 per cent. Körte ‖ reports thirty such cases which have come under his observation, sixteen patients having died and fourteen recovered. I think, however, that

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* "Correspondenzbl. f. schweiz. Aerzte," vol. xvi.

† "Bull. de la soc. de chir.," Paris.

‡ "Arch. f. klin. Chir.," Bd. xxxiii, p. 303.

# "Deut. med. Wochenschr.," 1883, p. 656.

* *Loc. cit.* † *Loc. cit.* ‡ *Loc. cit.*

# "Deut. med. Wochenschr.," 1883, p. 246.

‖ "Berl. klin. Wochenschr.," 1883, No. 57.

these figures are too low, for many patients, after leaving the hospital with an artificial anus, pass into other hands for treatment, and the final result is not known to the original operator. Schmidt's statistics place the death-rate of the double operation at 80·5 per cent. (against 76 per cent. for immediate enterorrhaphy).

It is often maintained that it is better to allow nature to deal with the gangrenous intestine as best it may. That this plan is not attended by better results is shown by the figures of Ill,* who collected twenty-nine cases treated in this manner in the United States, and in these, twenty-five patients died. I am sure, however, that, if more cases treated in this manner were reported, the results would be more favorable.

I fully believe that the 50-per-cent. death-rate for the immediate operation is far too low, for, without doubt, many fatal cases have never been reported. The mortality of both operations is a high one, and, judging from figures, no very decided advantage can be claimed for either method.

In the foregoing argument there is one fallacy—viz., the artificial anus may be cured without resorting to the dangerous operation of resection. Nature may accomplish this, or some minor plastic operation, or the application of the enterotome may bring about this happy result. The latter method is again coming into vogue, and may reduce the 38 per cent. which resection claims as its mortality-rate.

There is always risk of error in arguing from statistics, especially where they must necessarily be incomplete from non-publication of cases; still I thought that a collection of operations in tabular form might at least encourage surgeons to report their cases more freely, particularly those that terminate fatally.

After a careful analysis of the reports of operations, my conclusion is that neither one of these two methods can be recommended as the wisest procedure to adopt in all cases. Under certain circumstances the one plan will be found to be the safest, and under different conditions the other will be the operation to adopt. It is on these points that an expression of opinion from the members of this society would be most valuable.

CASES OF IMMEDIATE RESECTION FOR GANGRENOUS INTESTINE.†

| No. | Operator. | Where reported. | Disease. | Age and sex. | Length removed. | Mesentery. | Suture material. | Result | Cause of death. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Ramdohr, 1727. | "Moebius disput. Anatom.," Gothingæ, 1751, vol. vi. | Inguinal hernia. | .......... | 2 feet. | Wedge removed. | Invag. of upper end in lower; silk sutures. | R. | | |
| 2 | De Vernale, 1728. | "Observ. et remarq. de chirurg. pract.," Mannheim, 1767. | Inguinal hernia. | .......... | 2½ inches. | .............. | Invag. of upper in lower end; silk sutures. | R. | | |
| 3 | Duverger, 1737. | Louis, "Mém. de l'acad. roy. de chir.," 1757, p. 188. | Inguinal hernia. | .......... | 2 inches. | .............. | Ends sewed with silk sutures over trachea of calf. | R. | .................... | Trachea of c'lf pass'd *per anum* on twenty-first day. |
| 4 | Schmidt, Jos., 1759. | "Dissertatio de Ileo.," Wien, 1759. | .............. | .......... | 6 inches. | .............. | Silk sutures. | R. | | |
| 5 | Nayler, 1794. | Cooper, in "Anat. and Treat. of Hernia." | Inguinal hernia. | .......... | 4 inches. | Wedge removed. | Silk sutures; mesen. held against abd. wound by sutures. | R. | .................... | Fæcal fistula on second day, which remained. |
| 6 | Cooper, A., 1806. | Cooper on "Hernia," p. 147. | Femoral hernia. | .......... | 2½ inches. | .............. | .................... | D. | | |
| 7 | Cooper, A., 1806. | *Loc. cit.*, p. 148. | Femoral hernia. | .......... | ½ inch. | .............. | .................... | D. | Recov. from prim'ry operation, but death in 2 months, due to closure of intestine. | On eighth day fæcal fistula formed. |
| 8 | Dieffenbach, 1836. | "Wochensch. f. gesam. Heilkunde," 1836, No. 26. | Inguinal hernia. | .......... | 3 inches. | Wedge removed. | Lembert's suture (silk). | R. | .................... | Patient d. in 4 wks. fr. intest. obstruct. well above sutures. |
| 9 | Von Langenbeck, 1875. | "Arch. kl. Chir.," v. xix, p. 410. | Properitoneal inguinal hernia. | .......... | 20 ctm. | .............. | Invag. (Ramdohr), with separation of mesent., & Lembert sutures of catgut. | D. | Delirium tremens and exhaustion. | Line of suture did not leak. |
| 10 | Kuester, 1877. | "Verh. der Gesellsch. f. Chir.," 1879, p. 83. | Femoral hernia. | .......... | 4 ctm. | Wedge removed. | Lembert's sutures with catgut. | D. | Septic peritonitis. | 2 sut. had giv'n way & leakage tak'n place |
| 11 | Czerny, 1878. | "Berl. klin. Wochensch.," 1880, p. 638. | Femoral hernia. | Fem., 43. | 10 ctm. | Wedge removed. | Two rows of silk sutures (24). | R. | | |
| 12 | Kuester, 1877. | Rep. by Madelung, in "Arch. f. Chir.," Bd. xxvii, p. 84. | Ing. hernia; bef. op. fæces had escaped in peritonæum. | .......... | 5 ctm. by laparotomy. | .............. | Lembert's suture (catgut). | D. | Septic peritonitis. | Eight hours after operation. |
| 13 | Kuester, 1878. | Personal communicat'n to Madelung. | Inguinal hernia. | .......... | 5 ctm. | .............. | Lembert's suture (catgut). | D. | .................... | Twenty-eight hours after operation. |
| 14 | Nicolidini, 1879. | "Wien. med. Blätter," 1879, Nos. 6 and 7. | Femoral hernia. | .......... | .............. | .............. | Edges inverted and silk sutures. | R. | .................... | Fistula formed on 5th day, but afterward closed. |
| 15 | Wahl, 1879. | "St. Petersburg med. Wochenschr.," 1879. | Properitoneal ing. hernia. | .......... | 15 ctm. | Wedge removed. | Lembert's suture, catgut (10). | D. | Peritonitis in 7 hrs. | Union of sutures good. |
| 16 | Woelfler. | "Wien. med. Wochensch.," 1881, p. 116. | Femoral hernia. | Fem., 65. | 15 ctm. | .............. | 25 silk sutures. | D. | Septic peritonitis due to fæcal escape before operation. | |
| 17 | Hagedorn. | "Verh. Gesellsch. f. Chir.," 1880, p. 64. | Femoral hernia. | Fem., 68. | 16 ctm. | Wedge removed. | Lembert's suture of catgut. | R. | .................... | On fifth day fæcal fistula formed. |
| 18 | Hagedorn. | *Loc. cit.*, p. 65. | Femoral hernia. | Fem., 40. | 2 ctm. | .............. | Lembert's suture of catgut. | R. | .................... | On sixth day fæcal fistula. |
| 19 | Kocher. | "Bull. de soc. méd. de Suisse romande," April, 1880. | Ing. hernia, reduced *en masse* by pat.; laparotomy. | .......... | 42 ctm. | .............. | Lembert's suture. | R. | | |
| 20 | Ludvik, 1880. | "Wien. med. Presse," 1880, p. 743. | Femoral hernia. | Fem., 60. | 10 x 12 ctm. of ileum. | Cut off close to attachment. | Upper invag. in lower end; 20 catgut sutures. | R. | .................... | Stool on fourth day. |
| 21 | Bardenheuer, 1880. | "Die Drainirung der Peritonealhöhle," 1881, p. 218. | .............. | .......... | .............. | .............. | Two rows of suture. | R. | .................... | Fistula formed, wh. healed in 4 mos. |
| 22 | Kocher, 1880. | "Centralbl. f. Chir.," 1880, p. 466. | Femoral hernia. | .......... | 11 ctm. sm'l intestine. | .............. | Lembert's suture of catgut (8). | D. | Septic perit.; d. on 10th day; gang. of intest. 10 ctm. above line of suture. | |

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* "Med. Record," Sept. 22, 1882.

† For a number of the following cases I am indebted to the tables of Madelung and Reichel.

CASES OF IMMEDIATE RESECTION FOR GANGRENOUS INTESTINE—(*Continued*).

| No. | Operator. | Where reported. | Disease. | Age and sex. | Length removed. | Mesentery. | Suture material. | Result | Cause of death. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 | Czerny. | "Berl. kl. Wochensch.," 1880, p. 45. | Inguinal hernia. | Male, 49. | 6 ctm. | Wedge removed. | .................... | D. dur. op. | Collapse and impact of vomited matter in trachea. | |
| 24 | Heusner. | "Deut. med. Wochenschr.," 1880, p. 558. | Femoral hernia. | Fem., 73. | 10 ctm. | Wedge removed. | Lembert's sutures, catgut (10). | D. | In 24 hrs.; septic peritonitis; leakage thro' line of suture. | |
| 25 | Gussenbauer, 1880. | "Prager Wochenschr." | Inguinal hernia. | .......... | 18 ctm. | Wedge removed. | Two rows suture, Lembert's, catgut. | R. | .................... | On sixth day, fistula formed; healed on fourteenth day. |
| 26 | Julliard, 1881. | "Rev. méd. de la Suisse romande," June 15, 1881. | Femoral hernia. | .......... | 18 ctm. by laparotomy. | Wedge removed. | Jobert's method; catgut. | R. | | |
| 27 | Jaffé, 1881. | "Samml. klin. Vorträge" (Hamburg), p. 1699. | Femoral hernia. | .......... | 12 ctm. | Wedge removed. | Czerny-Lembert (catgut). | R. | .................... | Stool (spontaneous) on fourth day. |
| 28 | Taendler, 1881. | Personal communicat'n to Dr. Nebel. Rep. by Madelung. | Femoral hernia. | Fem., 52. | 11 ctm. | .............. | Ten catgut sutures between serous and muscular coats. | D. | In 62 hrs. after operation.; septic peritonitis. | Sutures loose; intest. gang. six inches above. |
| 29 | Billroth, 1881. | Communicated by Woelfler. Rep. by Madelung, "Arch. kl. Chir.," Bd. xxvii, p. 277. | Inguinal hernia. | Male, 60. | 5 ctm. | .............. | Two rows silk, outer row in Lembert's method. | R. | .................... | Fistula formed, wh. closed in three weeks. |
| 30 | Roggenbau, 1881. | "Berl. kl. Wochensch.," 1881, No. 29. | Inguinal hernia. | .......... | 32 ctm. | .............. | Czerny-Lembert (silk). | R. | .................... | Stool on 5th day. |
| 31 | Rydygier. | "Berl. kl. Wochensch.," 1881, p. 593. | Femoral hernia. | Fem., 58. | 54 ctm.; projecting ends of muc. mem. cut off | .............. | 1st row of contin. gut sutures thro' ser. & musc. coats; 2d row of Lembert's. | D. | Peritonitis in twenty hours; line of suture closed. | |
| 32 | Billroth (Woelfler). | "Verhand. d. Gesellsch. Chir.," 8th Cong., p. 85. | Femoral hernia. | .......... | .......... | .............. | .................... | D. | | |
| 33 | Billroth. | "Wien. med. Wochensch.," 1881, No. 5 (Nittelshöfer). | Crural hernia. | .......... | 15 ctm. | .............. | Two rows, 25 sutures. | D. | Collapse. | Fæces in perit. cav., prob'bly escap'd in pulling out intest. |
| 34 | Billroth (Woelfler). | *Loc. cit.*, p. 85. | .............. | .......... | .......... | .............. | .................... | D. | | |
| 35 | Bryk. | Schramm in "Przeylad Lekarski," 1881, No. 22. Mentioned by Rydygier. | Femoral hernia. | Fem., 36. | 12 ctm. | .............. | Lembert's. | D. | Collapse. | In few hours after operation. |
| 36 | Bryk. | *Loc. cit.* | Inguinal hernia. | Male, 29. | 12 ctm. | .............. | Lembert's. | D. | On 7th day from inflam. of lungs and carbolic-ac. poison. | Patient vomited fr'm time of operation until death. |
| 37 | Obalinski. | Personal communicat'n to Rydygier. | No details. | .......... | .......... | .............. | .................... | D. | | |
| 38 | " | *Loc. cit.* | " " | .......... | .......... | .............. | .................... | D. | | |
| 39 | " | " | " " | .......... | .......... | .............. | .................... | D. | | |
| 40 | " | " | " " | .......... | .......... | .............. | .................... | D. | | |
| 41 | Korzeniowski. | " | .............. | .......... | .......... | .............. | .................... | D. | | |
| 42 | Weiss. | Communicat'n to Michl. Mentioned by Rydygier. | Inguinal hernia. | Fem., 47. | 10 ctm. | .............. | Ten Lembert and 12 superfic. fine silk sutures & invaginat'n. | D. | Inanition due to fæcal fistula. | Died at end of four weeks. |
| 43 | Nichaus, P. | "Correspondenzbl. Schweiz. Aerzte," 1886, p. 70. | Femoral hernia. | Fem., 58. | .......... | .............. | .................... | D. | In 2½ days; due to inanition. | |
| 44 | Kofranyi. | "Wien. med. Wochensch.," 1885, p. 965. | .............. | Fem., 50. | .......... | .............. | Serous coat only united. | R. | | |
| 45 | Rosenberger. | "Munch. med. Wochensch.," 1888, p. 447. | Femoral hernia. | Fem., 40. | .......... | .............. | Serous coat only. | R. | | |
| 46 | Jones, S. | "Lancet," 1885, p. 616. | .............. | Fem., 42. | .......... | .............. | Czerny-Lembert. | ? | Pt. died at end of 15 d.; supposed to be due to abort'n; sept. peritonitis present. | |
| 47 | Viertel. | "Deut. med. Wochensch.," 1877, No. 10. | Femoral hernia. | Fem., 56. | 3 ctm. | Wedge removed. | Lembert, of silk (15). | R. | | |
| 48 | Fischer. | Reported by Reichel, "Deut. Zeitsch. Chir.," vol. xix. | Umbilical hernia. | Fem., 55. | 5 ctm. | .............. | Lembert's. | D. | Septic peritonitis on second day. | |
| 49 | Fischer. | Reichel, *loc. cit.* | Ing. hernia. | Fem., 47. | 7 ctm. | .............. | Lembert's. | R. | | |
| 50 | Moledonkow and Minim. | "Centralbl. f. Chir.," 1881, No. 46. | Inguinal hernia. | Male, 21. | .......... | .............. | Lembert's catgut (25). | R. | | |
| 51 | Roser. | "Centralbl. f. Chir.," 1881, No. 52. | Femoral hernia. | .......... | 1½ ctm. | .............. | 2 rows; 8 in inner and 6 in outer; coats inverted. | D. | In 42 hrs. from ileus. Valve-like swelling of mucous memb. | |
| 52 | Aman. | Schmidt's "Jahrbuch," 1882, p. 266. | Femoral hernia. | Fem., 63. | .......... | Wedge removed. | Czerny's. | D. | In 17 hours from peritonitis. | Line of suture closed. |
| 53 | Bardeleben. | "Deut. Gesellsch. f. Chir.," Berlin, 1883. | .............. | .......... | .......... | .............. | .................... | D. | .................... | No details. |
| 54 | Bardeleben. | .................... | .............. | .......... | .......... | .............. | .................... | D. | .................... | No details. |
| 55 | Feld. | "Arch. kl. Chir.," Bd. xxx, p. 222. | Inguinal hernia. | Male, 33. | 18 ctm. | Wedge removed. | Two rows of silk interr. sutures. | R. | | |
| 56 | Hofmokl. | "Wien. med. Presse," 1888, p. 357 and 394. | Umbilical hernia. | Fem., 48. | 22 ctm. | .............. | Three rows. | D. | Peritonitis at end of 24 hours. | |
| 57 | Reichel. | "Deut. Zeitsch. f. Chir.," Bd. xix, p. 230. | Umbilical hernia. | Fem., 56. | 21 ctm. | .............. | Lembert's. | D. | Septic peritonitis of 2 days. | Union imperfect; op. lasted 2½ hours. |
| 58 | Reichel. | *Loc. cit.* | Inguinal hernia. | Fem., 55. | 5 ctm. | .............. | Lembert's. | D. | Septic peritonitis on 2d day. | Leakage at line of suture. |
| 59 | Reichel. | *Loc. cit.* | Ing. hernia. | Fem., 47. | 7 ctm. | .............. | Lembert's. | R. | | |
| 60 | Reichel. | *Loc. cit.* | Inguinal hernia. | Male, 35. | 37 ctm. | .............. | Lembert's. | R. | .................... | Fæcal fist. formed by punct. of intestine on account of obstruction. |
| 61 | Serres. | "Rev. de chir.," 1887, p. 928. | Inguinal hernia. | Fem., 69. | 8 ctm. | .............. | .................... | R. | | |
| 62 | Prater. | "Rev. de chir.," 1884, p. 859. | Inguinal hernia. | Fem., 61. | 21 ctm. | .............. | Two rows, one for muc. memb. and one for serous coats. | D. | Shock at end of 24 hours. | |
| 63 | Ill, E. J. | "Med. Record," 1882, Sept. 22. | Femoral hernia. | Fem., 24. | .......... | .............. | Lembert's. | .... | .................... | On fifth day fæcal fistula formed. |
| 64 to 83 | Mazzoni. | "Ital. Cong. of Surg.," 1886, reports 20 cases done in Italy up to 1886. | 20 cases of strangulated hernia. | .......... | .......... | .............. | .................... | 12R<br>8D | | |
| *83 | Mazzuchelli, A. | "Gaz. Med. Ital.," Lomb., 1884, p. 475. | Inguinal hernia. | Male, 51. | 16 ctm. | .............. | Czerny-Lembert. | R. | .................... | Operation lasted two hours. |

* I have added these cases on Mazzoni's authority. Have been unable to ascertain particulars of more. No. 83 is included in this number.

CASES OF IMMEDIATE RESECTION FOR GANGRENOUS INTESTINE—(*Concluded*).

| No. | Operator. | Where reported. | Disease. | Age and sex. | Length removed. | Mesentery. | Suture material. | Result | Cause of death. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|
| 84 | Kocher. | "Correspondenzbl. f. Schweiz. Aerzte," 1886. | Inguinal hernia. | Male, 57. | 1 m. 60 ctm. | Separat. close to attachment to gut. | Inner of interr.; outer continuous; both silk. | R. | .................. | Out of bed on 14th d.; disch. on 18th day. No bad effects. |
| 85 | Sobolewski. | "Deut. med. Wochensch.," 1887, p. 496. | Femoral hernia. | Fem., 26. | 15 ctm. | Wedge removed. | Two rows interrupted. | R. | .................. | Operation lasted 1½ hour. |
| 86 | Nedopil. | "Wien. med. Wochensch.," 1886, No. 51. | Inguinal hernia. | Male, 52. | 8 ctm. | Mesent'ry separated at attachment. | 2 rows; in part continuous and in part interrupted. | R. | | |
| 87 | Nedopil. | " " " | Inguinal hernia. | Fem., 48. | 20 ctm. | ............ | .............. | D. | From septic peritonitis on second day. | Gangrene of intest. for 3 ctm. on both sides of sutures. |
| 88 | Nedopil. | " " " | Femor. hernia which slipped into abd., and fæces escaped | Fem., 53. | ............ | ............ | .............. | D. | In six hours from septic peritonitis and collapse. | Laparotomy was performed; death not due to operation. |
| 89 | Nedopil. | " " " | ............ | Fem., 49. | 6 ctm. | ............ | Two rows of interrupted sutures. | R. | | |
| 90 | Burckhardt. | "Correspondenzbl. f. Schweiz Aerzte," 1887. | Inguinal hernia. | Fem., 21. | ............ | ............ | Inner row contin.; outer row interrupt. | R. | | |
| 91 | M. Banks. | "Lancet," 1885, p. 750. | Inguinal hernia. | Male, 25. | ............ | Wedge re moved. | Czerny-Lembert. | R. | .................. | Operation lasted two hours. |
| 92 | Parker. | "Brit. Med. Jour.," Jan. 22, 1887. | Inguinal hernia. | Male, 50. | 12 inches. | Wedge removed. | 2 rows of inter. catgut; muc. memb. not included. | R. | | |
| 93 | Carson, N. B. | "Jour. Am. Med. Assoc.," May 7, 1887. | Ing. hernia; laparotomy. | Male, 12. | ............ | Wedge removed. | .............. | R. | | |
| 94 | Stewart, J. E. | "Am. Jour. of the Med. Sci.," 1886, p. 152. | Femoral hernia. | Male, 68. | 4 inches. | Removed at point of attachment. | Lembert's, of catgut. | R. | | |
| 95 | Crespi. | "Bollett. Cliniche Milano," Sept., 1887. | Inguinal hernia. | Fem., 53. | ............ | ............ | Lembert's. | R. | | |
| 96 | Postempski | "Bollet. della Acad. Med. di Roma," Dec., 1887. | Inguinal hernia. | Male, 20. | ............ | ............ | .............. | R. | | |
| 97 | Prati. | "Centralbl. f. Chir.," 1883, p. 45. | ............ | ............ | ............ | ............ | .............. | D. | Shock a few hours after operation. | |
| 98 | Marcy. | Rep. by Ill, *loc. cit.* | ............ | ............ | ............ | ............ | .............. | D. | | |
| 99 | Rosenberger. | "Magdeburg Naturversamm." | Inguinal hernia. | ............ | ............ | ............ | .............. | D. | | |
| 100 | Rosenberger. | *Loc. cit.*; rep. by Haenel, "Arch. kl. Chir," Bd. xxx, p. 395. | Femoral hernia. | ............ | ............ | ............ | .............. | D. | | |
| 101 | Kosinski. | "Centrlbl. f. Chir.," 1886, p. 173. | ............ | ............ | ............ | ............ | .............. | D. | | |
| 102 | Kosinski. | *Loc. cit.*; rep. by Haenel. | ............ | ............ | ............ | ............ | .............. | D. | | |
| 103 | Riedel. | "Deut. med. Wochensch.," 1883, p. 656. | Inguinal hernia. | ............ | 30 ctm. | ............ | .............. | D. | In 4 days, septic peritonitis. | Intest. gangr. above and below sutures. |
| 104 | Wettergren. | "Hygeia," 1883; "Centralbl. f. Chir.," 1883, p. 784. | Femoral hernia. | Fem., 60. | 10 ctm. | ............ | Catgut. | D. | Septic peritonitis in two hours. | In replacing gut, fæces escaped in abdomen. |
| 105 | Wettergren. | *Loc. cit.* | Femoral hernia. | Fem., 65. | 10 ctm. | Wedge removed. | .............. | R. | .................. | Death in 25 days from cancer. |
| 106 | Walter, K. A. | "Hygeia," 1886; "Centralbl. Chir.," '86, p. 692. | Inguinal hernia. | Male, 52. | 28 inches. | Separated at attachment. | Two to three rows of Lembert's sut. | R. | | |
| 107 | Agnew, D. H. | "Med. and Surg. Reporter," 1888, p. 321. | Umbilical hernia. | Female. | 14 inches. | Wedge removed. | Lembert's silk. | D. | In 24 hours from hæmorrhage. | One suture torn out, but no leakage. |
| 108 | Fuller. | "Med. Rec.," vol. xxii, p. 430. | Femoral hernia. | Fem., 50. | 5½ inches. | ............ | Continuous linen. | R. | | |
| 109 | Richardson, M. H. | "Boston Med. and Surg. Jour.," 1886, p. 535. | Umbilical hernia. | Fem., 40. | 8 inches. | ............ | .............. | R. | | |
| 110 | Richardson, M. H. | *Loc. cit.* | No details. | ............ | ............ | ............ | .............. | D. | Exhaustion or collapse in 12 hours. | |
| 111 | Rosenberger, J. A. | "Münch. med. Wochensch.," 1888, p. 447. | Femoral hernia. | Fem., 40. | ............ | ............ | Serous coat only sutured. | R. | | |
| 112 | Burtscher. | "Correspondenzbl. Schweiz. Aerzte," 1881. | Femoral hernia. | Fem., 40. | ............ | ............ | .............. | D. | On fifth day. | |
| 113 | Lange, F. | Personal communication. | Inguinal hernia. | Male, 45. | 5 inches. | ............ | Czerny-Lembert. | D. | Collapse in few hrs. after operation. | |
| 114 | Briddon, C. K. | Personal communication. | Femoral hernia. | Fem., 40. | 4 inches. | ............ | Lembert's. | D. | Collapse within 24 hrs. after operation. | |
| 115 | McCosh, A. J. | .................. | Inguinal hernia. | Fem., 66. | 4 inches. | Wedge removed. | Czerny-Lembert; inner of silk, outer of catgut. | R. | | |

# MEDICAL EDUCATION AND METHODS OF INSTRUCTION IN MEDICINE.*

By J. WEST ROOSEVELT, M. D.,

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At this time, when so much attention is being paid to education in general, when older methods are being superseded by new and very different ones—when men are beginning to learn that the aim of education is not the setting of wearisome tasks with a view of "training the mind" (often at the cost of confusing the understanding), not the acquirement of mere knowledge but of wisdom—it is well to look at the methods of instruction in medicine. I do not intend to weary you with a useless discussion of points of little moment, but wish to direct attention to matters of practical moment. Many members of this society are teachers. All are interested in raising the standard of medical education. Within the past ten years more radical changes in the modes of teaching have occurred than took place in the previous century, perhaps even more than in the centuries which have elapsed since the first didactic lectures were given. How far were the older methods good and how far the newer? For absolute dependence upon didactic instruction we must not substitute clinical and laboratory work unaided by systematic lectures. There is a certain something taught by a good lecturer which can not be imparted by books, recitations, or practical instruction. The lecturer can *feel* his audience and knows whether it understands him.

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* Read before the New York Clinical Society, January 25, 1889.

In some things the personal influence of the speaker seems to make an impression which nothing else can make. Yet this sort of instruction is only of limited value. There are also distinct limits to laboratory and clinical work and recitations as means of teaching medicine. It must be admitted, however, that if we were compelled to abolish one of these methods it would be the didactic lectures which could best be spared. After considerable experience in "quizzing" and some as a didactic and clinical lecturer, I am convinced that this statement is true. I have asked many students and recent graduates whether they learned most at these lectures or at "quiz." The answer has always been that in almost all subjects it was in the "quiz" that they learned; not at the lectures. The impossibility of teaching histology, pathology, actual, general, or physical diagnosis, surgery, or anything which requires the use of trained senses, is self-evident. As well attempt to teach piano-playing in such a way! On the other hand, no clinic, laboratory, "quiz master," or book can really entirely supplant the lectures.

No class of men is more conservative than teachers. It is strange how tenaciously they cling to traditions. In the past, books were scarce and dear and lectures were the most important means of instruction. Now, when books are common (alas, how very common!), lectures are by no means so valuable. In spite of this fact, they continue to hold far too high a place in the instructor's mind. It is distressing to hear a lecturer attempting to teach a subject which can only be learned by practical study. Anatomical lectures are, for the most part, very useless. In the lecture-room general anatomical principles may be taught; much can also be taught in regard to development; but the dissecting-room is the place for most real instruction. All of this has been said before, and is, indeed, so self-evident that I would not repeat it were it not that so many medical students, already overworked, are compelled to waste a number of hours each week listening to professors who are also wasting time in vain attempts to explain, in a most laborious, tedious, and complicated way, facts which can be learned far more easily and accurately. It is a shame that the brilliant men who occupy many of the chairs of anatomy should be employed in such a futile effort. It is a shame that students should be compelled to listen to such lectures. Time wasted is one of the few entirely irremediable losses.

What has been said of anatomy applies, though with less force, to lectures on physiology and the other subjects taught. It must be remembered that in physiology, medicine and surgery, and that most confusing jumble called therapeutics, knowledge rapidly advances. A lecturer has, therefore, a peculiar usefulness in bringing his subject up to the times. One of the greatest difficulties with teachers of the so-called "theoretical" branches is that of deciding what should be taught to medical students and what omitted. While appreciating the absolute necessity of considerable knowledge of anatomy and physiology to the practicing physician, I must frankly say that a great deal of the talk about the need of thorough knowledge of these branches is, to my mind, nonsense. Bearing in mind that the great aim of a medical college should be to produce good physicians, and that it is impossible for any man to be really a good anatomist, physiologist, and practicing physician, it is hardly well to cram him too full of information which he will soon forget and which he will rarely need. Perhaps the anatomists, more than physiologists, err in trying to teach too much. The kind of mind necessary to an anatomist is one capable of grasping detail. The study of anatomy is well calculated to intensify this quality. Very often the teacher, in his interest in detail, fails to see the relative importance of things. To him it seems that the exact course and relations of some small nerve are as necessary to his three or four hundred hearers as the topographical anatomy of the thoracic viscera. Yet his audience are students most of whom wish to become practitioners. They may live long lives and never need the first piece of information. They *must* know the second if they wish to have even a slight knowledge of diagnosis. All of the theoretical branches are given fresh life and interest if the teachers would take the trouble to show, as far as possible, their practical application.

Clinical instruction is a most valuable method of teaching. This method may be employed in two very different ways—clinical lectures to large audiences and bedside instruction to small classes. Of the former it may be said that in some cases it is no better than didactic lectures. The patient is merely a lay figure, and might as well be a plaster model so far as the students are concerned. A lecture upon symptomatology with a patient for an excuse or text differs not at all from a lecture without such patient. This, of course, does not apply to all cases; only to those where the patient has nothing visible as a symptom.

To small classes bedside instruction is of the greatest value. By "bedside instruction" I mean teaching medicine not only actually at the bedside, but also in any manner which enables each student personally to examine the case. There the student learns to use his special senses and his mind. He also is able to get some idea of the differences between patients in the clearness of their accounts of their illness and how to gather the facts upon which a diagnosis is based and treatment instituted. He can see the physiognomy of disease, and can learn to make careful, thorough, and systematic examinations. Such study corresponds to work done in the laboratory or dissecting-room. Its value can hardly be overestimated as an adjunct to thorough instruction by means of didactic lectures, reading, and "quizzing."

In both large and small classes of medical students there is one serious danger—the instructor is apt to forget that he is trying to teach men of little previous experience. He therefore is inclined to show rare and curious cases rather than those which make up the bulk of medical experience. It is much more useful to teach students to examine and study cases of chronic gastritis, phthisis, etc., than to show them cases of leucocythæmia, acute yellow atrophy of the liver, or any rare disease. The medical student, like every student, should be taught to think and to see. Very peculiar and complicated cases are no more fitted for such study than Wagner's operas or Bach's fugues to a beginner in music. A clinic is not intended to be a place where the instructor is to impress students with a sense of his own diagnostic ability, but where he teaches them how to work.

As a check upon clinical work, the autopsy-table should have a more prominent place than it heretofore has held in this country. I will admit that this sort of check has not been altogether pleasant to me personally. It is by no means gratifying to show a case to students, make a diagnosis, and explain the precise reasons for this diagnosis, and then at an autopsy, held before the same students, demonstrate, with frightful precision, that the diagnosis was absolutely incorrect. This I have done more than once. The only thing more embarrassing is to meet with similar blunders committed by some one else, for one feels that one must try to excuse and explain them.

The words of "Truthful James" are in one's mind at such a time:

> "Now, I hold it isn't decent for a scientific gent
> To say another is an ass, or at least with all intent;
> Nor should the individual who happens to be meant
> Reply by heaving rocks at him to any great extent."

It is unpleasant, but perfectly right, to expose one's own errors; but it is more unpleasant to do the same for another. Moreover, one can in so doing easily do injustice, on the one hand, by creating a false impression that the error was more serious and inexcusable than it really was, and, on the other, by failing to tell the exact truth while trying to excuse and explain the blunder. Although all science should be studied for the love of Truth (with a big T), there is usually a greater or lesser mixture of this love with personal pride and ambition. Though the clinician, whose errors have been exposed by the pathologist, does not actually "heave rocks at him," he sometimes would like to, and he often feels hurt, not infrequently with reason. As a "jack" of both trades—clinical medicine and pathology—I can see how easy it is to make blunders and how often they are natural and excusable. Unfortunately, there is too often a spirit of antagonism between clinicians and pathologists. The former regard the latter as people who don't know so very much after all, and are, moreover, dogmatic and disagreeable, while the pathologist is apt to dwell with great satisfaction upon clinical mistakes which he has demonstrated. Pathology is not such an exact science as many seem to think. While the pathologist may clearly see the clinical errors, he blunders in much the same way. Do not understand me to mean that the pathologist should try to cover up clinical blunders. There is far too little truth told in our profession because of a fear of hurting men's feelings. It is, however, quite as untruthful to give too much as too little prominence to a fact.

The "quiz" has been and will be an important part of medical education. There is no better method of fixing knowledge than by recitation, except by teaching. The "quiz," like everything else, is undergoing change. As a matter of course, the student wants a "quiz" which will enable him to pass his examinations. The method of instruction, therefore, varies with the nature of these latter. The much-abused "cram quiz" was a natural result of the kind of examinations usual in the colleges and hospitals. This sort of quizzing had its advantages; it taught system in study and recitation; but let us hope it has passed away forever! It was calculated to give the student isolated facts and not general principles. While the examiners were in the habit of asking such questions as "What is the strength of the preparations of iodine in the U. S. Pharmacopœia?" or "What is Smith's disease?" the cram quiz was absolutely essential to the student. So long as the object of examinations seemed to be to ascertain not what a student knew, but what he did not know (always a large subject), he was obliged to learn the most peculiar and useless things in a mechanical way. Of late, since the idea has been slowly gaining ground that general principles and their application are really more important than isolated facts, the "cram" system has languished. Examinations are always objectionable, since they, instead of real knowledge, inevitably become an end for which the student works. When questions of the above-mentioned type are asked, common examinations become simply detestable.

In the curriculum now in vogue in our colleges is much that were better omitted altogether, and still more that could be abolished in the didactic courses. There is a growing sentiment against the teaching of materia medica, properly so called. Therapeutics should take its place and some laboratory instruction should be given in pharmacology. Most of the anatomical lectures could, as I have said, be abolished with advantage. The lectures on physiology could be largely supplanted by demonstrations to smaller classes. Most of the other didactic courses could be cut down. In the laboratories, as elsewhere, the fact that the object of the college is to give a good general education, not to make experts in the various branches, should be remembered. Everywhere the faculty of observation and thinking should be improved. The laboratory teacher is as apt as any one else to think his specialty of too great importance. Let special workers be taught as much as possible, but the medical student needs much simpler work. Thoroughness is necessary; but the word has a relative as well as an absolute meaning. It is possible to be thorough in a simple course as well as a complicated one.

What should be taught in chemistry at a medical school is a serious question. One thing at least might be emphasized with advantage—namely, that a man who is untrained in practical analytical work had better not attempt any. If this idea could be impressed upon the mind of the student there might be less time wasted in making inaccurate observations. I do not speak of simple clinical tests, which are recognized as rough, but of more thorough analysis. There is no time for satisfactory laboratory instruction. Perhaps the best that can be done is to teach the general principles and to demonstrate them practically. There is no use in burdening the mind with "atomic weights"; there is much in a clear explanation of what is meant by the term. To write formulæ is of little use—to understand them is important. Physics, unobscured by formulæ and uncomplicated by adding to each law the name of its discoverer, should be more fully explained. It is perfectly possible to make clear the doctrine of the correlation of forces, and never once refer to the square root of anything. The same may be said of all the essentials of physics. Of course it will be said that these principles should be understood before men enter the medical school. Perhaps they should, but, as a large number of men have the most muddled notions about them after they graduate, it seems probable that they are not. A great many rational men are very vague in their ideas about the difference between fluids in motion and fluids at rest, for example; a great many seem to be more or less confused by the relations of chemical combination to heat, motion, etc.

There is no use in criticising each branch separately. The object of this paper is merely to bring to your mind some points for discussion.

Preliminary education is beginning to receive some of the attention it deserves. It is well to consider what is the best training for one who intends to study medicine. Let me avoid starting the old discussion of the relative value of classics or mathematics. It seems to me that, if it really be necessary to "train the mind" by the study of some language in the irritating and complicated way so long the fashion among teachers of Latin and Greek, German might be made quite as dull, quite as involved and complex as Latin. When the student finishes the "training process" he will end with a more or less confused notion of a language which he must use and can learn perhaps more easily because of the training. I am not speaking of the rational teaching of Latin and Greek, merely of the method of lifeless drill in grammar so long in vogue.

Let us suppose that a student has a fair general education; what does he need to prepare for medical studies? Surely the answer should be: Special training in some branch of science requiring observation, classification, and more or less delicate use of the hands and special senses. It does not make much difference what is selected—chemistry, botany, comparative anatomy, or any other. Whatever it be, let the student learn it not from a book alone, but let him do practical work. This does not preclude a good education in other matters; in fact, it presupposes such an education.

Perhaps the greatest need in medical education is some method for teaching teachers. It is almost unavoidable that medical instructors should go to work in an amateurish sort of way. Teaching to them is a small part of their aim in life. Most men really are practitioners first and teachers afterward. Many seek to teach merely because they can thereby advance their private practice. This is natural, as instructors are poorly paid. Unfortunately, many men teach without having the faintest idea of the difficulties of so doing.

It is not only necessary that a teacher should know his subject. He should also know precisely what he wishes to teach about it. He should appreciate the difficulties likely to trouble his pupils. He should cultivate the faculty of expressing himself clearly and concisely. Should be on the lookout for illustrations and similes. Above all, he should try to learn how to make his pupils think for themselves. As in all educational institutions, so in medical schools, the greatest object should be to show *how* work is done.

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**The Medical Department of the University of Pennsylvania.**—Dr. John Guitéras, of the Marine-Hospital Service, has been elected professor of pathology and morbid anatomy.

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## A CASE OF
## BILATERAL POST-HEMIPLEGIC ARTHRITIS.

BY F. LE ROY SATTERLEE, PH. D., M. D., AND
J. LEONARD CORNING, M. A., M. D.

It is a well-known fact that after the occurrence of hemiplegia from cerebral hæmorrhage, certain joints on the paralyzed side may become the seat of acute or chronic inflammation. The time at which these joint affections sometimes occur is a factor worthy of note. In a certain percentage of cases the arthritis makes its appearance a short time before, or concomitantly with, or a short time after, the advent of contracture; or, in other words, the inflammation of the joints is a concomitant, or, to speak more exactly, *appears* to be a concomitant, of the secondary changes in the cord. Whatever current conceptions regarding cerebro-spinal physiology may be, the fact itself, regarded even from a purely pathological standpoint, is not without interest.

The case about to be narrated differs from ordinary post-hemiplegic joint trouble in this important regard: that not only were the articulations on the paralyzed side involved, but several of those on the healthy side were likewise the seat of acute inflammation.

Now, it is well known that after a lesion of the great ganglion cells of the motor portion of the cortex, or of the motor fibers of the corona radiata, the internal capsule, the crus, or the pons, secondary degeneration of those motor fibers which are situated below the lesion takes place. If the decussation of the motor tract is a complete one, we find, on section of the cord, that the degenerated tract is situated in the lateral column on the side opposite the primary central lesion. Should, however, the decussation be incomplete, then we find a degenerative condition of the uncrossed motor fibers on the same side as the primary lesion. These uncrossed fibers are known as the direct motor tract (see the investigations of Flechsig), and they are found to a great extent in the column of Türck.

Besides these secondary changes in the direct motor tract after cerebral lesions, Pitres has shown that, in some cases, a slight secondary degeneration may be found in the lateral column on the same side as the primary central lesion.

Now, is it not possible that, where vaso-motor and trophic disturbances are found, after hemiplegia not only on the paralyzed side but in the healthy limbs as well, such an occurrence has something to do with the presence of secondary disease, not only in the decussated fibers, but in those uncrossed filaments which have been examined by Flechsig and Pitres?

We are fully aware of possible theoretical objections to this proposition; but this much may be said of it: that it suggests investigations which may possibly lead to more exact knowledge.

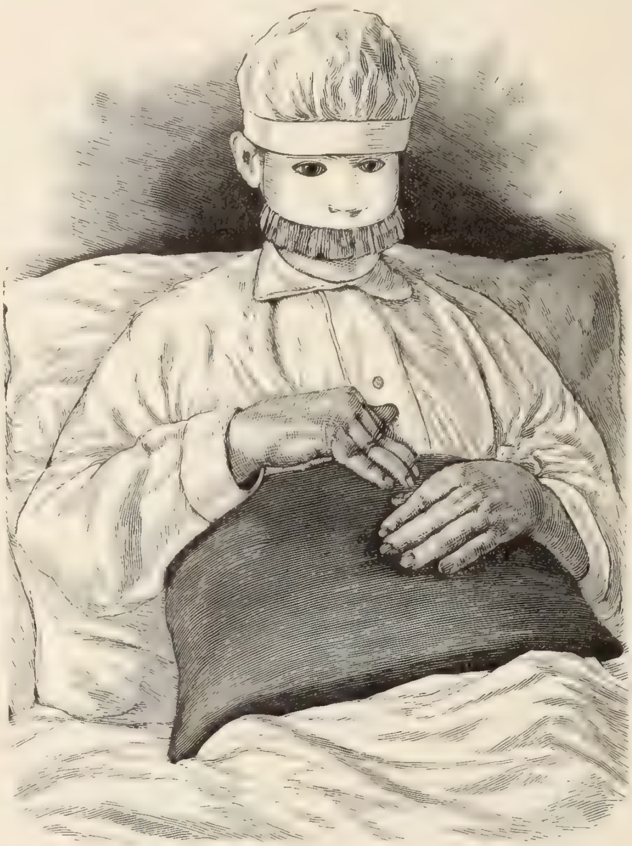
Abandoning these purely speculative considerations, let us examine briefly the more salient features of the case which has called them forth.

A. E. C., a man fifty-two years of age, suffered, some two years since, from hemiplegia of the left side, due apparently to hæmorrhage, as there was neither cardiac disease nor any other probable sources of embolism. His kidneys were sound, and patient denied that he had had syphilis, though the fact that there was a complete loss of hair, both from the head, face, and body, some fifteen years before the attack, might be construed as militating against the truth of his statement on this point. Still, so far as could be ascertained, this was absolutely the only suspicious symptom, all other manifestations of specific trouble being absent. Dr. Satterlee, who attended him from the beginning, found the left side completely paralyzed and anæsthetic. The anæsthesia disappeared in about ten days; there were few if any evidences of aphasia, and the affected muscles began to regain strength at an early date.

This improvement continued for three or four months; the patient was able to get about by the aid of sticks, and could use the affected hand in holding the newspaper and other operations of a grosser sort. At the end of this time the first evidences of rigidity were observed in the affected hand, and soon afterward (from two to three weeks) it was noticed that the healthy (right) arm and hand were thrown into a state of mild tremor whenever voluntary movements were attempted with the left hand. Complaint was also made of a feeling of "stiffness" in the right (healthy) hand. These manifestations were shortly followed by acute inflammation of the joints on both sides of the body. The first joint to become affected was the left shoulder, which became stiff and exceedingly painful, both to the touch and when passive and active motion were attempted. This was followed by acute inflammation of the joints of the fingers and toes on the affected side and a similar extension of the trouble to the joints of the healthy side. At the same time there was a considerable rise in temperature, which persisted for some days. The tenderness, local heat, redness, swelling, and other evidences of inflammation continued for several weeks. The appearance of these inflamed joints was and is still quite different from that of acute rheumatic arthritis. Two years subsequent to the apoplectic attack Dr. Corning saw the patient with Dr. Satterlee. At that time there was neither local heat, pain, nor other evidence of active inflammation in any of the joints. But, while the morbid process had evidently ceased, its effects were most apparent, especially in the feet and hands. The articulations of the metacarpal bones were so loosened that the fingers could be bent backward to a remarkable extent; there was a myxœdematous puffiness pervading both hands and feet, while the color of the skin was greatly and permanently altered to a bluish-red. This discoloration was evidently due to vaso-motor paralysis and consequent capillary stasis, for when the arms were allowed to remain pendent the hands immediately became engorged, offering apparently no more resistance to the influx of the blood-stream than if they had been so many bladders. On elevating the arms above the shoulders the transformation was equally remarkable, the blood flowing out and leaving the deformed hands in a condition of anæmia.

A similar condition of things is visible in the feet. As long as the patient remains in a horizontal position they give him no trouble; but, as soon as he sits or goes about with sticks for any length of time, they become livid, swollen, and the seat of considerable œdema. At such times the skin has a peculiar glossy, erysipelatous appearance, contrasting strangely with the cold, dead sensation experienced when the hand is applied to the part.

Such are the more salient features of this interesting case.



Hitzig[*] has published a number of cases of post-hemiplegic joint trouble in which, with one exception, the shoulder joint was alone affected. He believes that in these cases the articular affection has no direct connection with the central lesion, but that, on the contrary, it is to be "regarded as the consequence of the paralytic subluxation of the head of the humerus."[†]

Unfortunately for the integrity of this theory, the shoulder joint is by no means the only one which may be affected after hemiplegia; the elbow, the knee, and the metacarpo-phalangeal joints have all been seen in a state of more or less acute inflammation, due evidently to a preceding hemiplegia.[‡] Hitzig's theory also fails to explain the vaso-motor complications—phenomena which can only be adequately accounted for by assuming a profound derangement of the central nervous system.

Charcot, besides showing that these joint troubles are not to be ascribed to either gout or rheumatism, has expressed some plausible opinions as to their probable pathogenesis. According to him, a kind of neuroparalytic process, resembling that which is universally assumed as the cause of the lividity and swelling of paralyzed limbs, is to be held accountable for these inflammatory changes in the joints.

Finally, Brown-Séquard[#] observed, as early as 1861, in the course of one of the Gulstonian Lectures at the Royal College of Physicians, London, that "this subinflammation in paralyzed limbs is the result of an irritation of the vasomotor or nutrient nerves in the encephalon." * Here, then, we have a theory, founded, apparently, upon premises which are quite the opposite of those upon which Charcot bases his opinions.

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[*] "Ueber eine bei schweren Hemiplegien auftretenden Gelenkaffection." Virchow's "Archiv," xlviii, 1869, 3, 4.

[†] *Op. cit.*, page 353, fourth line from the top.

[‡] "Sur quelques arthropathies qui paraissent dépendre d'une lésion du cerveau ou de la moëlle épinière." "Archives de physiologie," i, 1868, p. 396.

[#] "Lectures on the Diagnosis and Treatment of the Various Forms of Paralytic, Convulsive, and Mental Affections," by C. E. Brown-Séquard, M. D., etc. The "Lancet" for July 13, 1861.

As to the occurrence of the joint troubles on the healthy side, nothing further need be said than that such phenomena, though curious enough in themselves, are no more paradoxical than the associated movements and cognate phenomena so frequently observed after hemiplegia. Whether the occurrence of secondary degeneration in the cord about the time the arthritis makes its appearance is to be regarded as constituting in some cases a co-sequence, or merely an accidental concomitant, is, of course, a matter of the purest speculation. Until physiology has done more for us, it is, therefore, idle to anticipate great things from mere deductive reasoning, in so far as the ultimate elucidation of the pathogenesis of these joint affections is concerned.

# ACUTE ŒDEMA OF THE SUBEPIGLOTTIC REGION AND LOWER PHARYNX IN A DIABETIC PATIENT. †

By E. J. MOURE, M. D.,
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I shall not refer here to the history of acute and primary œdema of the mucous membrane of the larynx, the existence of which is proved to-day by numerous and perfectly established facts.

The influence of cold and traumatism (injuries) in the production of serous infiltration is equally clear, and the question has been treated learnedly and at length by my former *chef de clinique*, Dr. Charazac, of Toulouse, in his important monograph on "Œdema of the Larynx," published in Paris in 1885.

On the contrary, observations of dyscrasic œdema are less numerous, although Lefevre (quoted by Lestier in his well-known work) has reported facts relating to œdematous infiltration in the case of overworked convicts. Granting that the malarial cachexia also gives rise to this lesion, we must acknowledge that cases of this class are far less numerous than those first mentioned. As much must be said of scorbutic œdema. The infiltration of albuminuria, on the other hand, is rather better known, and it would be even easier to report several examples of this complication in Bright's disease. Its appearance in an affection essentially œdematous (characterized by anasarca of the eyelids, extremities, etc.) is likewise readily understood. Facts relating to laryngeal œdema developing in the course of diabetes are, however, much rarer, and it is especially to this subject that I take the liberty of calling your attention, a case of this kind having recently been under my observation:

Mr. X., fifty-three years of age, consulted me on the 14th of June, 1888, concerning a difficulty which he experienced in swallowing saliva. He was apparently robust and had always enjoyed good health, but has been subject to trouble with his throat, which, however, has been usually of short duration, yielding to anodyne medication (gargles and mild saline purgatives). This time the attack appeared to be worse than usual. He experienced something akin to pain on the right side when swallowing his saliva and food; wine produced a disagreeable burning sensation; the pain seemed to extend to the ear on the same side; respiration was not embarrassed. He was able to attend to his usual occupations. Appetite fairly good. When questioned as to a probable cause for his sore throat, he thought he might have caught cold three days before, while out on the water. Upon examination, I found the tongue coated and dirty; the mucous membrane of the posterior wall of the pharynx was somewhat redder than normal, and the pillars of the fauces seemed thickened and glazed; the pharynx was rather dry, without abnormal secretion.

*Laryngoscopical Examination.* — Near the base of the tongue on the right side and on a level with the lateral insertion of the epiglottis was a tumefaction, red at its borders and almost transparent in the center, which, gaining the outside of the arytæno-epiglottidean fold, projected considerably into the sinus pyriformis, partially obliterating it. The edge of the epiglottis was infiltrated and red. In a word, the œdema had invaded the whole right subepiglottic region and the external part of the arytæno-epiglottidean fold of that side, reaching to the orifice of the œsophagus. The painful symptoms complained of were now quite easily explained, and having been assured that the first manifestations were of but three days' standing, and, moreover, having examined the heart and lungs by way of caution, I prescribed a saline draught (sulphate of sodium), a gargle, and emollient fumigations, as well as a hot poultice to the right side of the neck. Three days afterward, June 18th, all trace of œdema had disappeared, likewise the dysphagia and pain complained of. The patient noticed, however, a slight pricking sensation near the base of the tongue. Antiphlogistic medication was discontinued and a gargle of iodo-phenol and laudanum substituted. I could not, however, understand how such a trivial influence could produce this œdema in a vigorous, healthy subject, and therefore asked the patient to have his urine analyzed.

*June 29th.*—The patient returned to me very much frightened at the result of the examination, the chemist having found sixty grammes of sugar to the litre; he also reported that the urine was largely increased in amount. Specific gravity, 1·039. In order to be perfectly certain, another analysis was made by a different chemist a week later, and this time were found *seventy-seven grammes to the litre.* No trace of albumin or other pathological residue. In the presence of such a considerable quantity of glucose I did not hesitate to attribute the production of the laryngeal œdema to this morbid condition, and I advised the patient to treat the diabetes. This he has scrupulously done.

As I have remarked above, sugar was present in such quantity that I had no fear in attributing the laryngeal œdema to the existence of this product. Had the cold been the ætiological factor and recognized as capable of producing the acute œdema, it surely would have been one of those cases in which its influence would have been very manifest and its action promptly felt. Here, on the contrary, the patient was obliged to make an effort of memory in order to connect his excursion upon the water with his subsequent condition. On the other hand, as neither the ingestion of hot liquids nor the presence of a foreign body could be regarded as causal, apparently our only resource was to attribute the observed phenomena to the minimal cause mentioned. I was thus led to order an examination of the urine of my patient, and therefore do not hesitate to regard the diabetes as the primary cause of the œdematous infiltration. Hence, I think, in the so-called acute cases of laryngeal œdema, with but few exceptions where the cause of the trouble is evident (burns, traumatism, foreign bodies, etc.), it would be wise to have the urine examined, and thereby we would perhaps find, in the majority of cases, the primary cause of a lesion which, at first sight, is often inexplicable. With the view of calling atttention to this point, I have taken the liberty of offering this communication for the consideration of your learned body.

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* *Op. cit.*, page 29, ninth line from the bottom of page.

† Presented at the tenth annual congress of the American Laryngological Association.

*August 3, 1888.*

# SOME RESULTS IN THE TREATMENT OF ATROPHIC RHINITIS WITH THE GALVANIC CURRENT.*

By J. H. HARTMAN, M. D.,
BALTIMORE.

At the last congress of this association the attention of the fellows was called to some recent investigations by Dr. Delavan of the treatment of that form of rhinitis of the atrophic variety by the application of the galvanic current, at the same time referring to some conclusive results which Dr. Shurly had arrived at several years previous. Since then it has been my pleasure and profit to investigate and carry out the suggestions of Dr. Delavan and Dr. Shurly, and I beg to bring before you the results for your consideration.

In an article in the "Medical Record," September 16, 1882, Dr. Bosworth speaks of the application of the faradaic current in the treatment of turgescence of the nasal mucous membrane, which he regarded as due to lack of tone in the muscular coat of the venous sinuses. His experience was a favorable one, being confined, though, entirely to the use of the faradaic current, but suggests that the galvanic current may be equally valuable, and probably less painful.

Dr. J. D. Lente, in an article on the "Treatment of Nasal Diseases by Electricity," in the "Medical Gazette," vol. ix, p. 471, 1882, also refers to this method of treating nasal turgescence and engorgement, and considers its action as prompt and decided. He further says that it may and has been used by him for other abnormal conditions; but Dr. Lente used the galvanic current. He advises not to have the current too strong, using from two to three cells, his method of application being very similar to that advised by Dr. Delavan, but does not say whether he uses the positive or negative pole of the battery in the nostrils. He claims no originality in this method of treatment, stating that he was not aware that there was anything novel about it, having used it for some years—referring also to Dr. Bosworth's article in his remarks. So far these are the only references that I have been able to trace up upon the application of either the mild faradaic or galvanic current in the treatment of nasal diseases.

The action of the galvanic current upon mucous membranes has not, up to the present time, been satisfactorily explained. In my own view, I have no doubt that a stimulating action is set up, causing a molecular change and altering the secreting functions of the tissues. This, of course, only applies to mild currents, for, should a strong current be used, we then get destruction of tissues and death to cell-forming structures.

During the past fifteen months twenty-one patients with atrophic rhinitis have been treated by me with the mild galvanic current. Fourteen of them have been discharged cured. Five are still under treatment, being greatly benefited, and two gave up the treatment after a short time. No definite period can be given to obtain positive relief. Each case seems to vary. Some patients improve from the beginning and seem to make rapid progress. Others improve less rapidly, but nevertheless improve, and eventually are relieved.

The form of battery used is of no special importance, my own preference being for the chloride-of-silver batteries, which are readily managed, cleanly, and not likely to get out of order, and give a mild regular current.

The method of application followed has been similar to that advised by Dr. Delavan, the positive pole being applied to the nape of the neck by a sponge electrode, and the negative to the nasal mucous membrane by means of pledgets of absorbent cotton, wrapped on insulated copper wire and well moistened before being applied. The strength of the current should be exceedingly mild at first, but can be gradually increased after several applications. The length of time of the applications varies in different patients, and I have found that some will admit of a lengthy sitting from ten to fifteen minutes, while others complain after four or five minutes. The nasal membrane should be thoroughly cleansed before such application.

A flow of a watery secretion invariably follows after the use of the current, but ceases in a short time. In a number of cases I have noticed paroxysms of sneezing to occur during or following the treatment. Should they persist, it is evidence of either the strength of the current being too strong or the sitting too long. As regards the frequency of the applications it is impossible to lay down any rule. Daily sittings are seldom necessary. Generally three to four applications a week will suffice in most cases. As Ranney so well says: "Our present ignorance of the molecular and nutritive changes in tissues (as the cause or result of disease) renders it impossible to do more than speculate upon the theory of the therapeutical action of electricity in many cases; but, on the other hand, our empirical knowledge of these effects is none the less valuable because we are unable to explain them." The same criticisms would otherwise hold good in reference to many of the drugs employed in medicine; none of us know exactly *how* they produce their specific effects. So it may be regarded in the action of the mild galvanic current upon the mucous membrane of the nasal passages. As the view I expressed regarding its action as a stimulant is only a theory, nevertheless certain results are obtained, and such as warrant me in esteeming this method of treatment superior to any which has heretofore been suggested, and one which, if faithfully and patiently carried out, will, I am sure, gratify the operator in the end.

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* Read before the American Laryngological Association at its tenth annual congress.

## TEMPERATURE IN FEVERS.

By J. ELLIOT LANGSTAFF, M. D.,

BROOKLYN.

The following case will show the absurdity of the general impression that a "temperature of 104° must be energetically combated":

I was called to see Mrs. X. on November 1st. She complained of slight pain in the head, with mental irritability, loss of appetite, chilly sensations, and pains in the back and limbs; temperature 102°, pulse 98, white fur on tongue. (The nurse, who had been sent to the hospital, had died of typhoid a few days previously.) I gave calomel, gr. ij, and a saline mixture every four hours. The next morning the bowels were well moved and symptoms abated. On the third day the previous symptoms increased in severity, temperature 103·4°, bowels not moved, tongue heavily furred. I ordered calomel, gr. j, night and morning, and the mixture continued. The bowels did not move till the 5th, when the temperature had reached 104°. I ordered acetanilide, gr. j, every two hours for five doses, and stopped all other treatment. On the 6th there was nausea, pulse 120, temperature 104°. Gave quinine, gr. vj. On the 7th pain in the head increased, with intolerance of light and sound and distressing ringing in the ears. All medicine was now discontinued and the ice-cap applied; after seven or eight days the pain almost ceased. From the 4th to the 20th the temperature remained almost stationary between 104° and 105°. After the 5th the bowels were moved every day by an enema except on the 17th and 18th, when diarrhœa was present, accompanied by a little blood, which was easily checked by opiates. This diarrhœa was preceded by extreme tenderness in the left hypochondriac region, and on the 17th colicky pains. From the 20th to the 22d, temperature 103·6°. On the 23d, morning temperature was normal, evening 104°; from this day on, the morning temperature returned to normal, and the evening gradually to 102° on the thirty-fifth day. The diet throughout was almost entirely milk (every three hours) with liquid peptonoids (ʒj) till the 23d, when the appetite gradually returned and more freedom was allowed. On the thirty-fifth day the evening temperature rose to 104° and appetite disappeared. I then gave quinine, gr. v, at 3 P. M., and calomel, gr. j, in the morning for two days, when the temperature went back to 102°, and on the forty-first day the temperature was normal and remained so. The patient lost a very moderate amount of flesh. The pulse ranged from 110 to 130.

My experience leads me to believe that antipyrine given in the afternoon would have reduced the morning temperature and increased the evening, as a result of the depressing effect of the drug. If the bowels had been allowed to remain constipated for days (as is recommended by some authorities), the continued pain in the head would have been concealed by delirium, caused by the reabsorption of the poison which was leaving the system with the fæces.

I do not wish to denounce the antipyretic treatment of fevers with antipyrine and acetanilide, but I record the fact that a continuous temperature of 104° for seventeen days is not always dangerous.

I should deem it advisable to be as watchful of the injurious effect of the drugs on the system as of the injurious effect of the temperature.

Cases recorded as deaths from high temperature in fevers have also been associated with energetic antipyretic treatment. I consider the early evacuation of the bowels with the constant daily washing out of the rectum as the best treatment that could have been used in the above-given case.

## Correspondence.

### LETTER FROM PARIS.

*The Société de médecine pratique.—Zooplastic Grafting.—Winckel's Disease.—M. Fort's Method of treating Urethral Stricture.—Successful Surgical Treatment of a Cerebral Tumor.—Charcot's New Treatment for Ataxia.—Salol as a Remedy in Cholera.*

Paris, *February 25, 1889.*

*La Société de médecine pratique de Paris* is one of the most important of our local societies, numbering about three hundred. It meets, in common with other bodies, in a large building called the *Palais des sociétés savantes* on the rue des Poitevins, a little street near the Faculty of Medicine. The sittings are held on Thursdays from 4 to 6 P. M. at present, but it is intended to have extra meetings in the evening, once or twice a month. This society was founded in 1808 by Chaussier, and has had for presidents Baron Portal, Antoine Dubois, Trousseau, and Legrand du Saulle. Dujardin-Beaumetz, who was president for 1888, is continued this year as *président d'honneur*, while Dr. Laburthe is the actual presiding officer for 1889. M. Gillet de Grandmont is general secretary. The society's official paper is the "Journal de médecine," ably edited by the distinguished gynæcologist, Dr. Luteaud. The studies of the society are of the most practical nature; during the past year there have been taken up antipyrine, by Dujardin-Beaumetz; the regulation of prostitution, by Luteaud; the sale of milk in Paris, by St.-Ives Ménard; and anomalies of insertion of the placenta, by Porak. Numbers of other papers have been presented by such eminent men as Labbé, Desnos, Terrier, Saint-Germain, Balzer, Auvard, Polaillon, Terrillon, Landolt, and Apostoli.

The society is divided into fifteen sections, with presidents as follows: Medicine, Cadet de Gassicourt; Surgery, M. Péan; Therapeutics, M. Huchard; Hygiene, M. Duchêne; Legal Medicine, M. Luteaud; Medical Chemistry and Pharmacy, M. Dethan; Gynæcology and Obstetrics, M. Porak; Dermatology and Syphilography, M. Balzer; Genito-urinary Diseases, M. Reliquet; Ophthalmology, M. Landolt; Laryngology, M. Desarènes-Garrigou; Odontology, M. Richard; and Hydrology, M. Leudet. The final section is one of "*Free Associated Members*," which is intended to comprise a certain number of savants who are not directly engaged in medical science, but who are yet interested in such work. There are, besides, a number of corresponding members in France and other countries. It is intended to increase the foreign element so that the meetings of the society during the coming universal exposition will have considerable interest from the coming together of eminent men from all parts of the world. All the medical societies will hold frequent meetings during the world's fair in Paris this year, and a sort of International Congress of all branches of medical science will be held. The society of practical medicine has lately taken the initiative in naming a commission whose duty it shall be to study the basis of an *international medical language.* Delegates are asked for from all other medical bodies, and M. Dujardin-Beaumetz, the president of the committee, says he hopes to succeed in giving some practical and interesting result to this novel idea. The following papers were presented at the society's last meeting: M. Dubousquet-Laborderie showed a young man whom he had treated by grafting a portion of a frog's skin on an open wound of the foot resulting from an abscess. The member presented a most natural appearance and the operation seemed to have been a complete success. The surgeon stated that he had treated nineteen persons in this way and one with chicken skin, and in seven of the cases he had had complete success; they were cases of loss of substance after burns, ulcers, etc. He had used the frog in preference, as its skin had no follicles and was extremely vascular. His success with the method had led him to hope that zooplastic grafting would become of great practical utility, so that there would be no longer any danger of inoculation of syphilis or tuberculosis through open wounds, which certainly had happened. He, however, admitted that the operation would sometimes fail, though conducted with the greatest care and attention. M. Polaillon said that one reason why such operations did not succeed was that the frog's skin was anything but aseptic, and not only should the precaution be taken of cleaning the frogs, but they should swim for some time in a solution of boric acid before the skin was used. Very often grafted skin was reabsorbed, but even then it favored cicatrization; and, while it was not the frog's skin that remained on the patient, still it had acted by its presence and been the point of departure of a cicatricial proliferation. M. Danet remarked that, while the skin was not the same in different parts of the body, it did not matter which part was used, as the result would be good, and the first speaker closed the discussion by saying that he had once restored an eyelid with skin taken from the scrotum.

M. Bar presented a colored drawing of a newly born child that presented all the marks of a curious disease that had sometimes been called Winckel's disease. M. Bar, however, showed that it had been seen and described before Winckel by Laroyenne and by Parrot. The first had named it "*maladie bronzée hématique*," and the latter had called it "*tubuhématie rénale.*" The drawing shown gave a dark bronze coloring of the skin, and the autopsy made by Bar gave the macroscopical and histological lesions, as described by Winckel, who stated that this malady was epidemic and that it had a rapid course, but that it was in no way similar to Addison's disease. M. Fort then read six observations of cure of urethral stricture by his new method of linear electrolysis, and he presented his instruments by which the operation was performed. One of his patients had had an opening of only a millimetre in diameter, and yet after an application of a minute and a half he had been able to return to his work completely relieved. This method is worthy of the attention of surgeons.

M. Péan, surgeon to the St.-Louis Hospital, has related to the Academy of Medicine a case of successful surgical treatment of a cerebral tumor. The results of such operations, which are now becoming numerous, prove that there is no danger in opening the skull-cap when proper antiseptic precautions are taken, and it is a striking proof of the value of motor cerebral localization and of the newly shown cranio-cerebral topography, which allows of the localization of brain neoplasms with such precision as to permit of such surprisingly successful operations as that which M. Péan has performed. The localization was done by young Professor (Agrégé) Gilbert Ballet, of the faculty in Paris. He indicated the exact spot to trephine, although there was not the slightest sign of a wound, cicatrix, or elevation of the skin or bone at the place where the tumor was found. The skull was in fact healthy. Certainly it is now possible for a physician to call in a surgeon's aid in such cases, and with proper care success is almost certain. The patient was shown at the Academy, some two months and a half after the operation, in good health. Those who still persist in denying the reality of cerebral localization must cease to do so when they see that the doctrine is no longer a speculative one, but now enters into the domain of practice. The patient was a young man of twenty-eight, who had been treated by Dr. Gélineau for epileptic troubles for the last six years. Bromides had kept them under restraint for five years with considerable success, but within the last year the attacks had increased so much in frequency that they had become a danger to life. Dr. Ballet was called in consultation and diagnosticated a brain tumor, which M. Péan was asked to operate for, with the success as stated above, thus confirming the facts, as given by Charcot and his disciples, that there exists a motor zone with at least three centers, and that it can be determined with sufficient precision to permit of the successful surgical treatment of brain tumors.

Speaking of Professor Charcot reminds me that he has been using a new treatment for ataxia. It is simply suspension according to Professor Sayre's well-known method, which does not need to be described to your readers. It seems that some five years ago a Dr. Motchoukowsky, of Odessa, noticed the good effects of suspension in tabes. He had applied a Sayre jacket to a patient who not only was ataxic but also had scoliosis; there was at once a considerable amelioration in all the spinal symptoms, and it has led to an extensive use of suspension in ataxia; quite a number of patients have derived the greatest benefit from the treatment, including a girl who had Friedreich's disease, for which she was treated by Dr. Blocq, and who is now walking and doing well. Other ataxics who had to be carried to the hospital for treatment now walk there with ease, and when we know that the opinion of such men as Charcot is that it is useless to give mercury and iodides, or indeed to employ any other treatment in such cases, the value of such simple treatment can not be overestimated.

From experiments made by M. Loewenthal, in Professor Cornil's laboratory, it would seem that we have in salol a remedy for cholera. It had, indeed, been indicated by M. Sahli, when he first introduced the drug some time ago. M. von Nencki reports to the Academy of Sciences that where it is thought best to submerge the organism, and more particularly the intestinal tube, in a substance that is strongly antiseptic and at the same time not hurtful, the salicylate of orthokresol or of parakresol may be used in place of salol with certain advantages.

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**The Cause of Seasickness.**—"At a recent meeting of the Paris Academy of Medicine a paper was read by M. Pampoukis (of Athens) and M. Dastre upon experiments on 'sea vertigo' (*le vertige marin*). They show that, in spite of their peritoneal connections, the abdominal viscera are considerably shaken in movements of the body, and that they impinge particularly against the diaphragm and anterior abdominal wall. Owing to this, contractions occur through irritation of sensory nerves, with the effect of limiting the visceral movements. It is suggested that the Pacinian corpuscles in the mesentery may be the structures which are stimulated by the dragging of the mesenteric nerves occasioned by the movements referred to, and that through their irritation motor impulses are excited reflexly. Abdominal belts which restrain the movements of the viscera against the wall do not, however, prevent those against the diaphragm."—*Lancet.*

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## DISEASES OF THE FALLOPPIAN TUBES.

The general interest in the subject of diseases of the Fallopian tubes has not abated, as is shown by a review of current medical literature. Among other articles on salpingitis we note a paper by Rochet, in the "Province médicale" for December 15, 1888, entitled "Salpingites abdominales et leur traitement," which, although it is to be regarded largely as a compilation of previous work by German observers, is interesting as presenting the subject from the standpoint of a French writer. The title is rather ambiguous, since the adjective *abdominales* would seem to imply that the author referred to a new variety of salpingitis. As it appears from the context, it has no particular bearing on the condition and should have been omitted. Rochet classifies cases of salpingitis as follows: 1. *Salpingite catarrhale végétante*, characterized by hypertrophy of the mucous membrane of the tube (previously described by Doran). 2. *Salpingite purulente*, or pyosalpinx. 3. *Salpingite hémorrhagique*, or hæmatosalpinx. 4. Hydrosalpinx. He refers also to the tuberculous variety and to interstitial salpingitis, the latter, by the way, being really a hypertrophy of the muscular coat of the tube and not a separate condition. The symptomatology is obscure and ill-defined. In describing the treatment, reference is made to the conservative views of Laroyenne, who believes that puncture of the dilated tube through the vaginal fornix offers an easy and safe means of dealing with this condition. After puncturing, Laroyenne enlarges the opening and washes out the sac, as in an ordinary case of pelvic abscess. Rochet does not commit himself in favor of this palliative treatment, for it can only be regarded as palliative, which certainly does not commend itself to laparotomists at the present day, except in a limited number of cases in which, on account of firm adhesions, it is found to be impossible to remove the diseased tubes by an abdominal incision. We are sure that the consensus of opinion is in favor of removal, and that the palliative measure is one which can find favor only with timid or inexperienced surgeons, since it does not secure the patient against subsequent danger.

Apropos of the diagnosis of diseases of the tubes, attention should be called to a recent article by Schauta, in the "Archiv für Gynäkologie," Bd. xxxiii, Hft. 1, "Ueber die Diagnose der Frühstadien chronischer Salpingitis," and one by Winawer, in the "Centralblatt für Gynäkologie," No. 52, 1888, which describes the application of Thure Brandt's method to the palpation of diseased tubes. Schauta refers especially to the condition that he terms *salpingitis isthmica nodosa*, which in plain language is simply a localized hypertrophy of the tube that gives rise to nodular swellings situated at the uterine end. These may be mistaken for small myomata or for old exudations, but they are usually bilateral and are continuous with the tubes. As before stated, they are due to localized hypertrophy of the muscular coat, resulting from salpingitis, usually of gonorrhœal origin. As a characteristic symptom the writer notes the occurrence of periodic attacks of colicky pain at the time of menstruation, which he attributes to contractions of the tubes in their attempts to overcome the stenosis at the isthmus; hence the muscular hypertrophy at this point. In eighteen cases, these peculiar pains were absent only once. In removing such a hypertrophied tube, it should be ligated close to the uterus, and, if necessary, a wedge may be excised from the cornu, so as to remove the nodule entirely, the fundus being temporarily encircled by an elastic ligature.

Winawer dwells upon the great difficulty which is experienced in palpating a tube which is only moderately dilated or thickened in consequence of chronic catarrhal salpingitis. The diseased tube is usually buried in a mass of exudation so that it is impossible to distinguish its characteristic shape. In practicing Thure Brandt's method of pelvic massage, the writer found that he was often able to map out the affected tube as he had not been able to do before. In order to accomplish this the conditions must be favorable, and all evidences of subacute inflammation should be absent. It is unnecessary to give an anæsthetic, since, as the result of massage, the abdominal walls become relaxed, and the adhesions around the imprisoned tubes and ovaries are rendered more elastic and less painful. Unfortunately, in none of the author's cases was the diagnosis confirmed by laparotomy.

Both of these papers are interesting as showing a tendency on the part of German gynæcologists to endeavor to attain greater accuracy in the clinical diagnosis of an obscure class of affections which, it must be confessed, are too often recognized only at the operating table. While the experienced laparotomist may not desire to distinguish a diseased tube from a diffuse, ill-defined exudation in Douglas's pouch, to the gynæcologist, whose tastes or opportunities lie rather in the direction of conservative treatment, it is encouraging to observe that some progress is being made in the diagnosis of salpingitis by the vaginal touch as well as by the exploratory incision. If there is any one direction in which there is room for improvement, it is in that of the diagnosis of obscure intrapelvic affections, and we must always hail with approval any advance in methods which lie within the scope of the general practitioner as well as the laparotomist.

## THE WORK OF INSECTS ON A DEAD BODY.

When a dead body is discovered it is often a matter of importance to ascertain with a close approach to precision the length of time that has elapsed since death took place. In our treatises on medical jurisprudence this matter is not so fully treated of as to leave nothing to be desired. A case that was lately before one of the New Jersey courts seems likely to furnish a notable addition to our stock of facts bearing on the subject.

The circumstances, which have been furnished us by Dr. Norton L. Wilson, of Elizabeth, were as follows: A divinity student, twenty-nine years old, was last seen alive on the morning of June 24, 1888. Twenty-one days afterward his dead body was found in a wood near Westfield. Its identity was proved beyond doubt. With the exception of a coat and hat, it was fully dressed. The soil in that locality is a black loam, kept moist by a pond about fifty feet distant. There was but little underbrush about the body, and there were no low branches on the neighboring trees, so that a free circulation of air was possible at all times. The mean temperature had been 73·50° F. While it is true that the circumstances were such as to favor rapid putrefaction, it is remarkable that the remains consisted of little more than the skeleton, and this gave rise to the idea that something besides the ordinary processes of decay must have been at work. Most of the skin, the muscles, and a number of the ligaments were gone. What flesh remained was chiefly on the feet, where it was protected by the shoes and stockings. The ligaments of the right ankle had parted, the right ligamentum teres had been destroyed, and a number of the ligaments of the vertebral column, especially of its upper portion, were lacking, together with some of the intervertebral fibro-cartilages. The only ligaments remaining intact were those of the knees. A little muscular tissue was still clinging to the tendo Achillis. The scalp had disappeared and the hair was lying on the ground. Not an organ remained, and the dura mater was completely stripped from the skull. Some of the ribs had been parted from their cartilages, and not a few of the cartilages were riddled with small holes. The long bones presented a clean white surface, having been stripped of their periosteum; the shorter ones were not so thoroughly denuded. Dr. Wilson is quite sure that there did not remain three pounds of flesh, all told; and by flesh he means skin, fascia, muscle, and tendon.

A careful examination showed that no bones had been broken, except those of the skull and face, and there was no such evidence of gnawing as one would expect to find if dogs or other large animals had attacked the body. The skull had been broken into a number of pieces. The inferior maxilla had been fractured on the left side at the junction of the ramus with the body, and both condyles broken off. There was a comminuted fracture of the vault of the cranium, with the outer table depressed, and a disc about an inch in diameter was missing from the inner table. The theory was that the man had been murdered, probably with a carpenter's hammer, and his body dragged into the wood. It was thought that the first blow had been dealt him upon the vertex; that, by falling forward and striking on his chin, he had fractured the condyles of the lower jaw; and that his assailant had then given him a succession of blows on the left side of the head and face.

Inasmuch as the clothing had not been disturbed, Dr. Wilson is of the opinion that neither birds nor dogs had had anything to do with the rapid consumption of the body, but regards it as the work of maggots, beetles, and ants, with which the remains were "alive." The ants were of the large black variety. It is not credible, he adds, that in so short a period as three weeks putrefaction alone could have wrought such complete destruction of the tougher membranes as well as all the softer organs of the body. He thinks that the ants were the most active agents in the work.

## *MINOR PARAGRAPHS.*

### THE ADMINISTRATION OF ETHER.

A recent number of the "Medical Record" contains a very wholesome article on this subject by the editor, Dr. George F. Shrady. While we can not admit the correctness of Dr. Shrady's idea that the existence of residual air in the lungs is a source of danger when ether is given, and that it can be driven out by the vapor of ether, we regard most of the practical suggestions that he makes as promising much for the comfort and safety of those to whom his readers may administer ether in the future. He teaches that the vapor should be administered gradually; that the likelihood of unpleasant sequelæ is in proportion to the duration of the anæsthesia and the amount of ether consumed; that the shock occasioned by it is lessened by its even administration; that the minimum amount of force should be employed in controlling the patient's struggles; that "mixed narcosis" is often advisable for prolonged operations; and that many of the measures in vogue for the resuscitation of patients are not only useless but harmful, the utility of galvanism, in particular, being questionable, and the most trustworthy means being artificial respiration, hypodermatic stimulation, the use of nitrite of amyl by inhalation, and inversion of the body. The statement that, "after the stage of primary anæsthesia is reached, the more pure ether vapor the patient breathes the better," seems rather too absolute. The author properly insists that the administration of anæsthetics should be intrusted only to those who have had experience in it.

### CREMATION IN PARIS.

The "Progrès médical" states that the first authorized cremation in Paris took place on the 31st of January, at Père-Lachaise. It seems that there are still difficulties in the way of carrying out the practice in Paris, consisting apparently of obstacles raised by the municipal administration. In this instance the necessary authorization was given in consideration of the fact that the deceased's father, who applied for it, was an alien.

### THE NEWARK CHARITABLE EYE AND EAR INFIRMARY.

The "Ninth Annual Report" of this institution shows, not only a continuance, but a steady increase in its work. We are sorry to see by the report that the infirmary's income does not grow proportionally. The people of so flourishing a city as Newark ought certainly to furnish their institutions of this character with the means of keeping pace with the natural growth of the demands made on them.

### A RHUBARB RASH.

At a recent meeting of the Berlin Medical Society, a report of the proceedings of which is given in the "Deutsche Medizinal-Zeitung" for February 14th, Dr. Litten related the case of a man to whom rhubarb had been given, the doses being made small in consequence of his giving a history of having before suffered repeatedly with a rash after taking the drug. He was ordered an 8-to-200 infusion of rhubarb, with sodium bicarbonate, also a rectal injection of a solution of chloral hydrate.

Within half an hour of his having taken the first teaspoonful of the rhubarb mixture the rash appeared. There were large maculæ, together with severe pemphigus, ushered in with a chill as pronounced as is observed, for example, in ulcerative endocarditis. The rash was particularly marked on the elbows, hands, and feet, and appeared also on the genitals, giving rise to "colossal" hæmorrhages from the penis. The buccal mucous membrane, the tongue, and the lips showed epithelial desquamation. The recovery was slow. The speaker remarked that the examples of a rhubarb rash previously put on record had been of the very slightest form.

## THE SENSE OF SMELL IN CRIMINALS.

By means of comparative experiments upon criminals and other persons, Dr. Ottolenghi, of Turin, has been led to these conclusions: That the sense of smell is less developed in criminals than in other persons, and that it is a little less acute in women than in men. The author's account of his investigations is published in the "Giornale della Reale academia di medicina di Torino," and an abstract of it is given in the "Union médicale" for February 5th. He made use of a sort of osmometer consisting of twelve watery solutions of essence of cloves of graduated degrees of concentration.

## EMBRYOCARDIA.

Huchard has lately called attention to a new form of abnormity of the cardiac sounds which he calls embryocardia. On auscultation, the heart sounds resemble those of the fœtus. There is no difference between the first and the second interval; the sounds are feeble, precipitate, and equal, like the ticking of a watch. In the "Revue générale de clinique et de thérapeutique" for February 14th, Dr. A. Guillot, of Lisy-sur-Ourcq, reports three cases of typhoid fever in which the heart sounds were of this character.

## THE ORTHOPÆDIC DISPENSARY AND HOSPITAL.

The "Twenty-first Annual Report of the New York Orthopædic Dispensary and Hospital," for the year ending September 30, 1888, presents a readily intelligible account of the work done by the institution during the year in continuation of its past career of usefulness. The surgeon, Dr. Newton M. Shaffer, calls attention to the satisfactory results that have been attained in the correction of deformities, and remarks upon the decreasing frequency with which deformed persons are now seen on the streets of New York—a result, as he justly states, of the excellent work done at the orthopædic institutions. It seems that the accommodations, both in the dispensary and in the hospital, are getting to be insufficient. This, we trust, the institution will be enabled to remedy before long.

## ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 12, 1889:

| DISEASES. | Week ending Mar. 5 | | Week ending Mar. 12. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 6 | 1 | 9 | 2 |
| Scarlet fever | 361 | 47 | 341 | 49 |
| Cerebro-spinal meningitis | 4 | 2 | 3 | 1 |
| Measles | 313 | 18 | 236 | 20 |
| Diphtheria | 194 | 51 | 203 | 45 |

**The Health of New York City.**—During the four weeks ending Tuesday, March 12th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Health Department: Typhoid fever, 33 cases and 8 deaths; scarlet fever, 1,376 cases and 185 deaths; cerebro-spinal meningitis, 11 cases and 6 deaths; measles, 1,105 cases and 73 deaths; diphtheria, 759 cases and 209 deaths; small-pox, 1 death.

**The "Memphis Journal of the Medical Sciences"** is the title of a new monthly journal published in Memphis, Tennessee, and edited by Dr. Alexander Erskine, Dr. Thomas J. Crofford, Dr. S. A. Rogers, Dr. Bennett G. Henning, Dr. William B. Rogers, and Dr. James L. Minor. To judge from the first number, dated March, 1889, these gentlemen hold no sinecures, for the entire contents, in so far as formal articles are concerned, are contributed by them.

**The late Professor Dalton.**—At a special meeting of the trustees of the College of Physicians and Surgeons in the City of New York, held February 26, 1889, the following minute was adopted and ordered to be entered on the minutes of the board:

The trustees of the College of Physicians and Surgeons desire to express their deep sense of the loss sustained by the college in the death of its president, Dr. John Call Dalton.

During the thirty-four years of his connection with the college, first as professor of physiology, and afterward as president, Dr. Dalton took a warm interest in all that concerned the welfare of the institution. The college was in a special and peculiar sense his real home. A large portion of his daily life was spent within its walls, and here was accomplished most of the work which rightly placed him in the front rank of American physiologists. Although a man of broad sympathies, which carried him into other departments of science and into questions of public affairs, his life was centered here, and nothing lay so near his heart as the College of Physicians and Surgeons, its best interests, and its advancement to a higher plane of professional education.

As a teacher, Dr. Dalton possessed qualifications of the highest order. He was always master of his subject, while, by a seeming paradox, his subject mastered him. There was, for this reason, a certain contagiousness in his absorbing interest in his theme. Even the dullest facts, under his treatment of them, acquired a new freshness, either by some original illustration, by some presentation from an unusual standpoint, or by a quaintness of expression that gave them an air of novelty. But nothing displayed so well his rare genius in imparting knowledge as the skill with which he simplified the most difficult subject by his orderly arrangement of its principles and the transparent clearness of his language. To this directness and simplicity of speech, which was typical of the whole character of the man, was joined a peculiar charm of manner that fascinated every one who came in contact with him. With children he was a great favorite. From him an explanation of the mechanism of some familiar object, or a story of natural history told in his inimitable way, brought greater delight to the child at his knee than the most exciting fairy-tale from any one else.

And so in the lecture-room, although Dr. Dalton had none of the conspicuous but more commonplace gifts of oratory, there was a certain personal magnetism about him—a rare, subtile quality of vital power—that at once placed him in sympathy with his audience, and gave him absolute control over it.

To the office of president Dr. Dalton brought a practical knowledge of men and affairs, a love of work, and thoroughness in it, and a shrewd common sense, that qualified him for the position to a degree that now seems almost providential.

During his busy administration the college was removed to its present situation, its new buildings were erected, and its curriculum was enlarged. Out of these changes grew a host of difficulties, many of them of an entirely novel character, which could be solved only by the exercise of the soundest judgment and the most laborious attention to details. Dr. Dalton approached this task in a conscientious spirit, determined that the trust imposed by the generous benefactors of the college should be carried out faithfully. With health already impaired by the disease of which he died, his labors were indefatigable. He seemed to feel that the time was short; but, when the end came, he had the satisfaction of knowing that his work had not been in vain. The ambition of his later years was realized. He had lived to see the college he had loved with a more than filial affection entering with bright prospects upon a new era of prosperity. Could he have known also with what a fullness of gratitude his unselfish labors were regarded by all of the alumni and officers of the college, who can doubt that even his well-merited scientific honors would have had less value to him in his dying hour than such a tribute to his personal character?

[Signed.] George G. Wheelock, M. D., *Registrar.*

**The International Congress of Hydrology and Climatology** will hold its second session in Paris, from the 3d to the 10th of October. Papers and letters of inquiry should be addressed to Dr. F. de Ranse, 53, avenue Montaigne, Paris, until June 1st, or Néris (Allier) from June 1st until October 1st. Subscriptions, with a postal order for 20 francs, should be addressed to M. O. Doin, 8, place de l'Odéon, Paris.

**The First District Dental Society of the State of New York.**—A paper entitled "Photomicrography, and its Possibilities in Demonstrating Tissues," was announced to be read by Dr. W. Xavier Sudduth, of Philadelphia, at the meeting of Tuesday evening, the 12th inst.

**The Society of Medical Jurisprudence and State Medicine.**—The special order for the sixty-first regular meeting, on Thursday evening, the 14th inst., was a paper on "Some Relations of Scientific Experts to the Administration of the Law," by Judge Willard Bartlett, of the Supreme Court.

**Change of Address.**—Dr. William H. Dukeman has moved to No. 247 South Spring Street, Los Angeles, California.

**College Commencements** have been held during the week as follows: On Monday, Bellevue Hospital Medical College and the New York College of Dentistry; on Tuesday, the Medical Department of the University of the City of New York; on Wednesday, the New York College of Veterinary Surgeons and School of Comparative Medicine; on Thursday, the Woman's Medical College of Pennsylvania.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 3 to March 9, 1889:*

Webster, Warren, Major and Surgeon. Retired from active service, February 28, 1889. Par. 9, S. O. 50, A. G. O., March 1, 1889.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the week ending March 9, 1889:*

Marsteller, E. H., Passed Assistant Surgeon. Detached from monitors at Richmond and to wait orders.

Cabell, A. G., Passed Assistant Surgeon. Detached from the Naval Hospital, Chelsea, Mass., and ordered to monitors at Richmond.

McClurg, Walter A., Passed Assistant Surgeon. Promoted to rank of Surgeon.

Babin, H. J., Surgeon. Detached from the Mohican and to proceed home and wait orders.

Bradley, G. P., Surgeon. Ordered to the Mohican.

Lung, George A., Assistant Surgeon. Detached from the Vermont and ordered to the Mohican.

**Society Meetings for the Coming Week:**

Monday, *March 18th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Medico-chirurgical Society of German Physicians; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *March 19th:* New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Society of the County of Kings, N. Y.; Ogdensburgh Medical Association; Baltimore Academy of Medicine.

Wednesday, *March 20th:* Northwestern Medical and Surgical Society of New York (private); Harlem Medical Association of the City of New York; Medical Society of the County of Allegany (quarterly), N. Y.; New Jersey Academy of Medicine (Newark).

Thursday, *March 21st:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *March 22d:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *March 23d:* New York Medical and Surgical Society (private).

## Letters to the Editor.

### BEEF-EATING CANCERS.—A TEREBENE RASH.

Dalhousie, N. B., Canada, *March 5, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: Referring to your editorial on "The Proper Management of Cancer," in your issue of March 2d, I desire to say that the superstition that cancer is of a "reasonable mind" is not entirely confined to the *West.* I find the impression prevailing among a certain class in this neighborhood that the application of raw beef to a cancerous ulcer will restrain the ravages of the disease, and am aware of one case of scirrhus of the breast in a lady, a doctor's widow, in which it was used with alleged benefit. This was before my residence here, therefore I can not give particulars of the case further than that the cancer is stated to have "eaten" *five pounds of steak daily.*

Will some of the readers of the Journal state if they have found the use of terebene accompanied by the appearance of an acneform rash on the face and neck which causes a good deal of discomfort from its itching? I have observed this in six cases. It always disappeared when the drug was omitted for a time, and as invariably reappeared on its resumption.

Allan G. Ferguson.

### THE SUCCESSFUL REMOVAL OF A LARGE CALCULUS FROM A MAN SEVENTY-TWO YEARS OLD.

Bedford, Pa., *March 7, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: The following notes are only interesting in so far as they prove that old age has occasionally greater recuperative power than it is usually credited with. During the autumn of 1888 Jonathan Reigard, a German by descent and a farmer by occupation, came to me complaining of all the symptoms produced by vesical calculus. His history was that he began to notice that something was wrong with him about three years previously, and that for the last twelve months life had become intolerable, although he had been guaranteed cures without number, and turned his stomach into a drug-store, so far as pills, powders, and physic could make it. The examination with a sound made it certain that a large stone was in the bladder. Under the influence of ether, given by Dr. Enfield, of Bedford, I performed the lateral operation, and after great difficulty extracted a stone weighing seven ounces and measuring three inches long, two inches and a half broad, and an inch and a half thick. The usual after-treatment was adopted, and, although I did not expect it, from the age of the old man, the incision had healed completely at the end of five weeks. Since the operation he has gained in flesh considerably, and whenever he sees me tells me that he has not been so well for the last ten years. H. B. Runnalls.

## Proceedings of Societies.

### MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Meeting of January 28, 1889.*

The President, Dr. A. S. Hunter, in the Chair.

**Septic Poisoning in Early Life.**—Dr. H. D. Chapin read a paper with this title in which he called attention to several often unsuspected sources of blood poisoning in young children, especially to pediculi giving rise to points of ulceration in the scalp. He did not take account of such well-known causes as diphtheria, gonorrhœa, and scarlet fever, but of lesions of the scalp, mouth, teeth, nose, ears, and umbilical cord from which pus might be absorbed. It often caused an appearance in the child like that resulting from a scrofulous constitution. His experience had convinced him that whenever the glands in the neck were enlarged or ulcerating, search should be made for such a local cause. The lymphatics could dispose of pus up to a certain amount; after this it entered the blood and gave rise to general symptoms, and sometimes abscesses in different parts of the body. In one case related by the reader the rubbing of a nævus with a piece of placenta (an old woman's prescription) had produced general sepsis. Overfeeding and consequent intestinal fermentation gave another class of cases of an equivalent sort. He had been called to see cases of "malaria" in poor families in crowded quarters, and had found children suffering from fever and headache and showing a coated tongue. Investigation of the premises had shown that the practices of the family in the disposal of garbage and bodily excreta were so uncleanly and dilatory that no further cause of illness had been looked for. He had found affections of the respiratory tract, and especially of the tonsils, often resulting from the inhalation of air thus laden with germs. When the lymphatic glands were found to be enlarging it was better not to poultice them with a view to favoring suppuration, but to search carefully for some point where pyogenic germs might have entered.

Dr. J. Lewis Smith had often met with sepsis in the newborn from mismanagement of the cord after birth. When the stump took on an unhealthy action instead of healing or mummifying, the microbes (found in several instances to be the *Staphylococcus pyogenes aureus* and the *Streptococcus pyogenes*) spread through the surrounding lymphatics at first. They did not enter by the veins, as he had once supposed, except in a few cases. Aphthous mouth he thought could not often be a cause of sepsis, as it passed away under treatment so quickly. In scarlet fever and diphtheria many cases of sepsis were to be met with, but they had become less common since the general use of antiseptic solutions. He did not consider borated cotton a sufficiently active antiseptic dressing for the umbilical stump, and preferred iodoform gauze. He had cured two cases of umbilical phlegmon by applying carbolized oil. When it was desired to give the bichloride solution internally in scarlet fever or diphtheria, it could be administered in proper amount by a spray sent through the nose or against the back of the throat, so as to get both a local and a general effect. He had also found great advantage in keeping the air impregnated with the vapor of a mixture of carbolic acid, eucalyptus, and turpentine. The combined odor was quite pleasant.

Dr. A. F. Currier spoke of the septic infection of the eyes met with in new-born children as giving a striking illustration of the value of antiseptics. A five-per-cent. solution of nitrate of silver dropped into the eye as either treatment or prophylaxis had for a time been an empirical measure until the high power of nitrate of silver as a germicide had been shown.

**The Value of Water in Modern Therapeutics.**—Dr. Simon Baruch, in a comprehensive paper on this subject, presented a clinical study of methods and applications in various diseases and their results. Unusual interest being aroused among various members of the society, it was determined to devote the next meeting to the discussion of the paper.

The reader premised that he was not coming forward as a hydropath, and was actuated by no enthusiasm for a single truth to the exclusion of all others. He had as a clinician collected points from his own experience which seemed well founded, and had added ideas taken from the best writers both here and abroad. He would first present an account of the ascertained uses of cold water in therapeutics, then of hot water, then of moist applications. A great deal of attention to details was very important in getting results from the various uses of water. The text-books never treated of the subject fully enough, considering its moment. External applications of water were now a very essential part of surgery. Its value had been imperfectly ascertained during the recent rebellion, when it had been applied to wounds by sponges and wet compresses; these were now replaced by irrigations of boiled water or antiseptic solutions and by permanent absorbent dressings. It was just beginning to be recognized that heated water was better for this purpose than cold water, and that boiled water was quite as good as water charged with germ-destroying drugs, if not better. Very hot water as a styptic and a preventive of shock was not so widely recognized as it should be. A notable illustration of its value in this direction was its efficacy in arresting post-partum hæmorrhage, without forming the clots which resulted from persulphate-of-iron injections. The hot douches used in gynæcology to remove inflammation were another important use of hot water. But here, too, there must be great attention to detail. Dr. Emmet had insisted that the patient must be in a reclining posture, the temperature of the water not far from 110° F., and the stream intermittent and applied by a nurse; he could tell by an examination with the fingers in a series of patients which of them had received the douches properly. When we turned to the uses of water in skin diseases we came upon its first contra-indication—namely, in diseases of which eczema was the type. He had known cures to result from a simple avoidance of water after applications of oxide-of-zinc ointment and tar and rubber gloves had all failed even to relieve. A similar beneficial change in our ideas had led to the dry boric-acid packing in suppurative otitis media in place of the frequent injections of water. The odor and discharge were thus cured at once, even after having persisted for years. The vaginal injection following normal labor was another bad thing which was going out of vogue.

The internal applications of water were only beginning to be known at all widely, and were often not alluded to in the text-books. The author then reviewed the various conditions in which irrigation of the stomach by the soft-rubber tube had been found of value—dilatation, gastritis, fermentation of retained food, pain caused by *débris* not passed through the pylorus, and intestinal obstruction. He had also made the diagnosis between the more usual causes of dyspepsia and gastric neuralgia or ulcer of the stomach by examining the washings. The drinking of warm water to cleanse the stomach must also be done methodically. Half a pint of hot water slowly sipped an hour before meals had been found by actual examination to cleanse the stomach of mucus. An occasional washing of the stomach five hours after eating much increased the benefit to be gained by sipping water. Irrigations had also been used with benefit in the gastro-intestinal affections of children in summer and for jaundice caused by gall-stones.

Catarrhal jaundice was now treated by injections of two quarts of water, at a temperature of 60° F., into the large intestine, the patient being placed in the knee-elbow posture, and the water retained as long as possible; infantile diarrhœa, by introducing a soft tube as far as the ileo-cæcal valve, and gently washing out the whole large intestine with water charged with bicarbonate of sodium.

Returning to cold-water treatment, the author remarked that a mechanical and a thermic influence were here to be taken into account. By proper manipulations, either hyperæsthesia or anæsthesia, hyperæmia or anæmia, could be produced in a given area. It acted by reflex nervous influence on the circulation, and the amount of reaction depended upon the shock, up to a certain point (which would vary with the strength of the patient). It changed nutrition by its effect on the blood-vessels, heart, and respiration. It was thus of great utility in the treatment of lithæmia and neurasthenia. If the condition was much reduced, the exposure must be very short; the colder the water and the briefer the contact, the better. A sheet dipped in ice-water and thrown about the body (in a warm room), followed by vigorous rubbing and careful drying, so as to keep the patient in a glow, was an excellent mode of application, to which gastric and cardiac symptoms often yielded. By taking portions of the body separately this bath could be made useful even in cachectic states. In anæmic children it was more efficacious than cod-liver oil, hypophosphites, iron, or pepsin. Cold water was of excellent use as an antipyretic in acute diseases, and acted partly as a stimulant to the nerve centers, enabling them to regain control of the bodily temperature. This action was especially reliable in the high temperature of acute rheumatism, and also in that of insolation. After sunstroke the patient was to be sprinkled with cool water frequently, and cool water injected into the large intestine in large amount, since there was a lack of water in the blood. A high temperature occurred in summer diarrhœa, and could be found by placing the thermometer in the rectum. There was often a rectal temperature of from 102° to 106° F., although the extremities were cold and clammy. Here a graduated cold bath was indicated; the patient was to be put into water at 95°, which was slowly cooled to 80°. The temperature was thus to be controlled for twenty-four hours. After such a bath the patient was to be placed in a cold pack and hot bottles put to the feet.

The most remarkable aid was now obtained from the cold bath in typhoid fever. The idea that its usefulness consisted in reducing the temperature in typhoid had been widely prevalent and had prevented all who took this conception from realizing in what its real value consisted. In some records recently made of 7,000 cases of typhoid, 3,000 had been set down as fatal; besides this, it must be recognized that many really died of typhoid who were said to have had malarial disease. Dr. Delafield had placed the mortality in this country at nearly 25 per cent.; in Germany it had been placed at 21 per cent. The mortality in private practice in this city was also about a quarter, or as Dr. Delafield had estimated.

Since Brandt had published his invaluable researches as to the treatment of typhoid, and his method had become known in Germany, a partial application of it in a large number of cases had reduced the mortality from 21 to 7 per cent., and, where it had been strictly followed, to only 1 per cent. Not a single patient had been lost who had come under treatment before the fourth day. Brandt had recorded that in certain military hospitals where the method had been used the mortality had fallen off from 26 to 4 per cent.

As soon as the temperature reached 102° F. the patient was to be put for fifteen minutes into a bath with a temperature of 65°, and this bath might be repeated in two or three hours if necessary. Immediately on taking him out the patient was to be wrapped in a thick linen sheet, rubbed well, blanketed, and given a stimulant. In case the heart was feeble and the nerve-centers were overcome (even with the temperature below 102° this might happen), the patient was to be put into a tepid half bath, and there be given affusions of cold water accompanied by active friction. This was called the stimulating bath.

A wet compress was also to be kept upon the abdomen all the time. In these baths the benefit was derived almost entirely from the stimulus to the reflexes controlling circulation, respiration, and nutrition. Lung complications and heart-weakness did not contra-indicate their use; the heart was in fact aided. With these baths all the symptoms became lighter, there was less stupor and less sleeplessness, the nerves and nervous centers were not so apt to be affected, and the tendency to intestinal ulceration, hæmorrhages, and other complications was less. It was more a preventive than a curative remedy. Its statistical record was unparalleled. He had obtained very fair results for the past twelve years from a partial obedience to Brandt's instructions: a bath 10° below the body temperature, lowered gradually, after the patient was in it, to 68°. He had not thus obtained, and had not deserved to obtain, such results as had followed when directions had been really obeyed.

**The Relations of Water in the Bodily Economy.**—Dr. J. Harvey Dew read a short paper relating to the importance of water from a physiological standpoint. He would deal with water as an element necessary to the exercise of certain functions, and in the chemistry of animal life. Both laity and profession showed a sad neglect of certain facts about water, the results of which inattention he saw every day.

The chief of these facts were:

1. The body consisted mainly of water, the latter forming in health from two thirds to three quarters of its bulk.

2. Water constituted nearly the total volume of the circulating fluids of the body, the blood, lymph, and digestive secretions.

3. It was the vehicle for the processes of digestion, absorption, and transportation of food.

4. It formed a large part of the ultimate tissues, and must be present in every process of assimilation.

5. It served as a vehicle for the circulation of waste matters.

6. Three or four pints (or pounds) of it were needed daily.

7. It could be observed that all thin persons partook scantily of water, whereas all fleshy people drank freely of it.

8. All diseases involved a disturbance of the processes of digestion, absorption, secretion, and elimination.

9. A large proportion of the discomforts and troubles of the body arose from a poor performance of the functions depending upon water. It was proper that in health two pints of water should leave the body daily by the kidney, two by the skin, and one and a half by the lungs, or five and a half total. Water taken at meal-time was rapidly absorbed or passed through the pylorus. Lack of water caused constipation, made the secretions tenacious, the circulation defective, and the skin dry, and directly caused dyspepsia. The habit of taking water only in the form of such beverages as tea, coffee, and beer was not a good substitute for the drinking of pure water.

## NEW YORK CLINICAL SOCIETY.

*Meeting of January 25, 1889.*

The President, Dr. J. W. Roosevelt, in the Chair.

**Medical Education and Methods of Instruction in Medicine.**—The President read a paper thus entitled. (See page 288.)

Dr. D. B. Delavan would say in regard to the question of didactic or clinical instruction that, in his experience, both were needed. The retention of facts stated in didactic lectures depended very largely on a personal element in the lecturer, something in the manner and voice. Thus he himself had learned much from Dr. Dalton which had never left him, but from some other men he had listened to hardly anything. He believed a thorough grounding in the fundamental parts of medicine should be held as the all-important thing, rather than a knowledge of technical details, or of the rare and curious. If some simple disease were taken up and made thoroughly familiar, more would be gained by embryo doctors than from dividing up the time so as to have their attention drawn in rapid succession to a large number of diseases, some of which they might not meet with twice in the whole course of their practice, if at all. He had noticed that some students tended to pay paramount attention to the clinical instruction given them, and did no reading-up on any subject outside of their notes of lectures. He thought the deliberate perusal of several writers on the same subject one of the greatest aids to the command of it. The best man he had ever had under his instruction had followed up this plan diligently. One subject at a time had been studied clinically, and followed through a series of works by standard writers. Diffuseness was the prominent evil in the medical teaching of the day; too great an area and not enough concentration on any subject, from the least to the greatest. The instruction of instructors was therefore the essential need. We had a great yearly influx of beginners, all different in capacity and previous equipment for scientific study. It was very difficult to get the under-men in the faculty to deal with these students in detail. He meant by that that a large part of those who were *willing* to undertake direct instruction of individual students were unable to do such work.

Dr. M. Allen Starr considered it of great importance that such a subject should be freely discussed. He concurred heartily in many of the president's conclusions, but would take exception to two points. He thought that the importance of anatomical knowledge as an aid to clinical diagnosis could not be exaggerated. It was indispensable to accuracy of diagnosis in the department of neurology. As an illustration there might be cited the necessity of a knowledge of the motor tract in the brain before the subject of hemiplegia, as contrasted with alternating paralysis, could be understood. To show clinically two cases illustrating these affections would be useless unless the student knew the anatomy of the brain sufficiently to appreciate the location of the lesion in each. By a knowledge of anatomy he would not imply the memorizing of the branches of the ulnar or any other nerve, but he meant a working knowledge of the central nervous system and its great sensory and motor tracts and areas, without which a diagnosis in a nervous case was impossible.

Again, as to the use of large clinics, it seemed to him that there were many things which could be taught in these as well as to a few men. It was possible to show various forms of talipes, the gait in different diseases, the extent and distribution of paralyses, anæsthesiæ, and atrophies, characteristic deformities, and electrical reactions, just as well to three hundred as to one, and with a great saving of time. Therefore large clinics had a place in any plan of instruction, but they certainly should be supplemented by smaller ones.

The greatest clinical teacher he had ever heard was Nothnagel, of Vienna, and the impressive point in his teaching was the manner in which he connected symptoms and lesions, bringing out clearly the pathological reason for every manifestation of disease. Another point in Nothnagel's clinic was the method of instruction. Cases were not taken up hap-hazard, but were shown in relation to one another—for example, patients suffering from various forms of lung disease were shown in succession, patients illustrating all the various forms being shown during a certain period of the course, then in the same way all kinds of cases of heart disease, and then kidney diseases, etc., were shown. This enabled points of differential diagnosis to be clearly shown, and was much more impressive and instructive to a student than the presentation of several different cases without mutual relation on the same day. The material at many of the colleges was certainly sufficient for such a systematized clinical course; he had found it perfectly possible to arrange his own clinic by this method, and with advantage. The last point to which he wished to call attention was the need of some method of co-work among the lecturers in a given college. It would be easily possible, if different men agreed upon a plan, to have the student studying the anatomy, physiology, and pathology of a given organ at the same time; and when this was going on the clinics might be arranged so as to illustrate the diseases of that organ. For example, to illustrate from his own branch, there was no reason why the structure and functions and lesions and diseases of the brain should not each be before the student at the same time, with a saving to him of labor and confusion. Other organs—the stomach, or liver, or lungs—might be taken up thus in turn, and instruction would then be more concentrated and more thorough.

Dr. W. G. Thompson spoke of the nervously exhausted condition usually reached by the student at the end of a course of study at a medical college. The crowding and effort toward the last, made in fear of the difficulties of the final examination, could be only injurious in its effects. Many students graduated in a state of nervous tremor which was simply pitiful. There were other faults connected with the final examination system: the questions asked were often absurd because taking up more the unexpected and unimportant. The examiner, usually full of other work, often thought up his questions in the greatest hurry, and put in questions which occurred to him because they were difficult and he would see if the students knew them, but which were no test at all of the actual conscientious and purposeful study put in by a student during the several years past. The knowledge that such questions might be in store for them tended to upset the balance of students through fear of failure to pass. Such questions did anything rather than increase the sum of useful knowledge acquired previous to examination. The condition of many text-books put into the hands of students was an unnecessary hindrance to their progress. The authors of these books often attempted to accomplish three separate things in the same volume—namely, to write for practitioners as well as for students, and also to publish their own individual experiments in some one department, a knowledge of which was almost useless to the student of medicine. The student put to work on such an unbalanced book was in doubt as to what to take or what to leave untouched.

Much interest was being taken now in the colleges in the training of men for actual work, irrespective of the particular field they might go into. A professor at Yale had recently said to him in conversation that it was to be wished that more of the colleges of medicine would allow for fundamental training received previous to the special professional training. He believed such work should be freely taken into account in granting a diploma to practice. In regard to Dr. Starr's plan of having professors in the different departments co-workers, he thought the idea in itself was good, but that such co-operative work could not be done simultaneously to any advantage. Thus the physiologist could not begin his course by treating of nerves; neither could the anatomist; whereas the professor of nervous diseases must begin his course with them and nothing else. He believed quizzing had a place in the course of study, but that it should be done in the college and in small classes. If done by men attached to the college, the latter would gain a class of teachers from whom lecturers could be selected to fill vacant chairs who had been put early into the work of instruction and had real training in it.

The whole problem was, however, becoming greater year by year, owing to the increasing mass of knowledge vitally connected with practical medicine, and the special training in several directions which was getting to be indispensable to a man who would be considered qualified. Much of the material which for years past had been crammed by students must in the future be dropped as a new class of facts came to the front needing to be grappled with. He had seen an opinion lately that it would advance the interests of general literature if there could be a general clearing out every hundred years, so as to give a better field for men of equal talent who were writing to-day on subjects of as great interest and importance as any that were treated of in a previous century. Such a process would be equally beneficial if applied (and much oftener) in some departments of medicine. An elimination of what was practically trash, every few years, would be as much of a relief in general medicine as it was found to be in our pharmacopœias. As to the question of clinical or didactic lectures, he thought a balance between the two was best. In anatomy the examination should be only on the cadaver, and preparation for it made with that only in view.

Dr. A. A. Smith believed it better that a teacher should not be confined to a set course, but should be left free to exercise his own best judgment as to what he could teach that would be of real utility. It would often be out of the beaten track of his predecessors. Thus, in his own lectures on materia medica he constantly preferred therapeutics to botany. Whether a plant grew to eight or to sixteen feet in height, or even what its action on the body as a drug was, seemed to him less important for the student to know at the outset of his career than that he should understand the uses of water, heat, cold, and diet, and the management of patients. In fact, he thought *materia medica* doomed; it would be less and less studied in the future; the study of it to-day was a survival of times when drugs occupied a pre-eminent place in the physician's equipment. As to having didactic lectures almost done away with, as Dr. Roosevelt's paper advised, he thought it hardly feasible. It was perhaps conceit for any one to suppose that he could lastingly impress facts on the minds of hundreds of students not two of whom were alike and all of whom were seated together before him. He had found it necessary to use special means for making many subjects attractive to them. Thus he took up prominent symptoms of diseases and gave all the disorders which could give rise to each; dyspnœa, cough, jaundice, and dropsy were treated after this method. In his clinic he called down four of the students each time and gave them some actual work, and left the rest of the class to get what they could. It was true that students were crammed to repletion, so that there was constantly more overflow from their minds than matter retained. Still he hardly knew how this was to be avoided with the present amount of material to be taught, unless by making the course extend over several more years and having every man a model student. He had long favored the idea of having clinical work in some hospital made a part of the course and requiring each student before graduation to attend eight courses of moderate length in the direct study of diagnosis and management.

Dr. H. M. Biggs had one suggestion to make as to what the subject-matter of medical teaching in this country should be. Medical teaching was getting to be anomalous and would become more so if it ever went far from its natural basis in anatomy, physiology, and pathology. What he wished particularly to call attention to was the fact that, while anatomy was always taught more or less fully, there was a tendency to pass over pathology superficially and hurriedly, perhaps to quite omit it from the required curriculum. The student often went directly from his anatomy to the symptoms of disease. This not only was unscientific, but left him to make deductions in the vaguest way in regard to the real nature of disease processes and to give credence to methods of treatment which a trained pathologist would see at once could by no possibility accomplish what they were supposed to do. There was a notable lack of training in the intelligent conduct of autopsies and in the microscopical part of practical pathology. The debt which the rational therapeutics of to-day owed to pathology was greatly past computation, and was also constantly being increased. While histology might have limits to its usefulness in clinical medicine, a personal familiarity with the essential facts and principles in general pathology was indispensable to a clear conception of the nature of disease, its prognosis, and its amenability to treatment.

Students of medicine up to the day of their graduation commonly saw little of the internal organs in either a normal or a diseased state. They often had no idea of what they looked like during life. The material which they got in the dissecting-rooms was often brought there from autopsies without the viscera, or it was altered from being injected or by partial decomposition. Frequently they never saw more than one or two specimens of each viscus in its original state. Specimens brought before the whole class on plates, and rapidly passed from one man to the next while the lecture went on, were quite inadequate as a means of making the eye familiar with either normal or abnormal conditions in the viscera. Compared with the methods used in the study of pathology abroad, the usual practice of dealing with this department of work in America was very deficient. In Germany twenty to twenty-five hours a week were devoted to pathology. Here it was taught incidentally.

Dr. J. E. Winters discussed the question as to the best means of teaching anatomy with its bearings in so many directions. He was reminded of the method used by Dr. Darling, and the excellent results which the latter had attained. This accomplished anatomist had been always more than that; he had taught his branch together with its practical relations to surgery and symptomatology, and never by itself. The summer months he had spent each year studying surgery in the hospitals of London. He thought it important that the therapeusis of affections of the viscera should be taught simultaneously with their anatomy. The professor of anatomy should himself superintend the work of the students in the dissecting-room. It could not safely be left to demonstrators. The teaching of anatomy could never reach a high grade until the professor was to be found among the students. All the student was to take away with him he got there. He approved of the presentation of clinical material in groups showing allied diseases.

Dr. L. B. BANGS remarked that many students began work without the least capacity for or training in observation, and therefore needed instruction in that faculty. He thought that it was wasted time for them to attend clinics in the first part of their course, and was accustomed to discourage such attendance, believing that it was too early for them to gain any real information from seeing clinics conducted. The student must have some general knowledge of a disease before he could study its symptoms, or grasp the reasons for its treatment in this or the other way. As to the advantages of clinical over didactic teaching, in his opinion, so long as one had to deal with a great mass of students of the most unequal intelligence, and in all grades of preparation and fitness for scientific work, it would be necessary to make an average, and adapt the instruction to the majority of those to be reached. Some men needed the didactic teaching to take the place of a certain training in handling ideas which they had never before had. Above all, he tried to teach students to make observations, and to use method in making them, on the course of a disease. He compelled some of the students at a clinic to come down and tell him what they saw, and asked those on the seats to criticise and question the conclusions offered.

Dr. H. C. COE, in discussing the value of those portions of anatomy which a student learned by force (such as that of the muscles of the back) but always forgot shortly afterward, quoted a remark made by Dr. O. W. Holmes about such knowledge, that it was "better to have loved and lost than never to have loved at all." He had studied the methods of teaching anatomy used in various countries, and had found the best in England. There no didactic lectures were given. The dissecting-room was the only lecture-room, and every man knew that only study with his own eyes and hands would give him any chance of passing the examinations. The questions asked in the latter were made with the cadaver in front of the student, and called for a statement of what structures would be exposed if a given section were made. Two years were devoted to the sole study of anatomy and physiology, and the subsequent teaching was such that familiarity with anatomy was kept up to a high pitch through the whole course, and was ministered to in every department of study. Dr. Darling had graduated at an English school. By making every clinical examination and the prelude to every surgical operation an opportunity for a review of the anatomy involved, the dry bones could be clothed in living flesh.

Dr. L. E. HOLT coincided with Dr. Biggs's opinion that it was utterly impossible to teach therapeutics without there being previous correct ideas in the minds of students of the lesions they were to deal with. If a student, for instance, had no conception of the pathological conditions present in the intestinal mucous membrane in cases of chronic bowel complaints there was not a chance of his understanding or approving the rational treatment called for. In didactic lectures careful diagnosis could be taught, and was almost the only thing not better studied in other ways.

Dr. W. MENDELSON, speaking of the difference between medical teaching in this and other countries, said that he himself had found when he went to Leipsic that his previous study had turned him into a memorizing machine merely. He had there first begun to observe. There seemed to him to be a notable lack of teaching in this country, devoted to what might be called the philosophy of medicine. General pathology and morbid physiology were at bottom the same thing. Cohnheim made such teaching a prominent part of his instruction in the hospitals. In other countries the hospitals were quite as much places for students to work in as for the reception of patients; here they were managed much more with the latter end in view. In Leipsic certain students would be detailed to go into the wards and examine and write up certain cases. Then those patients were wheeled into the amphitheatre, the report was read, and the other students were invited to join with the professor in criticising it.

The PRESIDENT made a general reply to the comparisons made in favor of foreign modes of teaching by reminding the society of the fact, however explained, that the German and English colleges did not turn out men superior in skill to those who grew up in America. American physicians were superior, on the whole, to those abroad. Even if the foreign methods of teaching did produce better men, that very training would unfit them for American life. As for making hospitals the working ground of students, it would be unjustifiable in this country, at least in any such way as that in which patients were placed at the convenience of medical students abroad. Neither the patients in an American hospital, nor its trustees, physicians, and stewards, would allow the liberties accorded to students abroad. Nevertheless, clinical instruction must be given a higher type here. He would have object lessons, didactic lectures, and recitations combined in proper proportion.

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## SOCIETY OF THE ALUMNI OF BELLEVUE HOSPITAL.

*Meeting of December 5, 1888.*

The President, Dr. HERMANN M. BIGGS, in the Chair.

**Remarks upon the Yellow-fever Epidemic of 1888 in Jacksonville, Fla.**—Dr. SOLLACE MITCHELL, of Jacksonville, read a paper, in which he said that the introduction of yellow fever into Jacksonville during the past summer had been due to the importation of infected material from one or more points in south Florida, these points having been infected the previous year by fomites from Key West and Havana. The southern portion of the Gulf coast of the State was infested by smugglers, and it had been by these vessels rather than through the legitimate channels of trade that the disease had been brought into the State and concealed.

That the fever had existed in some localities in the southern part of the State during the winter and spring of 1888 was known both by the medical profession and by the people in general, but any quarantine save an absolute quarantine against the entire State was impracticable, because of the independent action of the various county boards of health and the non-existence of a State board of health.

The first case of yellow fever recognized had been that of Mr. McCormick, from Tampa, on the 29th of July; the patient and all attendants had been immediately removed to the Sand Hills Hospital. The attempt had then been made by the board of health to stamp out the disease, but all efforts had been rendered futile because of the failure of many of the physicians to recognize the disease; therefore cases had not been reported.

Yellow fever had been well written up, and he would not occupy time by rehearsing what every text-book contained, but he should mention some few things of interest, particularly in reference to a new method of treatment.

His observations had been made at the Sand Hills Hospital, where he had had charge. The hospital was beautifully situated on a ridge of ground some seventy feet above the level of the city; it was three miles and a half from the business portion of the town, and entirely shut in by the pine woods. Throughout the entire epidemic this hospital had remained uninfected, although the fever had traveled along the country highways in every direction for eight miles or more; still no case of fever had occurred among the thirty unacclimated nurses and attendants, the most of whom had never been South before.

Strenuous efforts had been made from the very first of the epidemic to prevent the Sand Hills Hospital from becoming infected. Guards had patroled the hospital grounds night and day; no communication had been allowed with the outside world, nor had the nurses been allowed to leave the hospital grounds until discharged. When a patient was brought in on the ambulance he was immediately stripped of all clothing and sponged thoroughly from head to feet with a hot solution of bichloride of mercury (1 to 1,000), then provided with a clean night garment and put to bed. No infected material had been allowed in the hospital; all clothing and personal effects had at once been put in the fumigating room. In addition to this, the floors of the wards had been sprinkled or wiped up with the bichloride solution night and morning; stools and urine had been disinfected, and black vomit had been at once removed and disinfected.

The treatment of yellow fever in this hospital had not been circumscribed by prejudice for any theory, several lines of treatment being followed at the same time upon different groups of patients. The speaker would only refer, however, to the "Sternberg treatment," which was of especial interest.

The Sternberg treatment was purely theoretical; it had been suggested early last summer by Dr. George M. Sternberg, of the army, after his study of yellow fever the preceding winter in Havana. The treatment consisted of the internal administration of bichloride of mercury and an alkali, preferably the bicarbonate of sodium. The bichloride was suggested merely for its use as a local disinfectant in the intestinal tract, this being believed to be the habitat of the germs; the alkali was to render the stomach and intestinal contents alkaline, as he had found that in yellow-fever patients the vomited matter and stools were highly acid. Aside from this theoretical reason for the alkali, the highly acid condition of the secretions furnished an indication for such a treatment.

Certainly this form of treatment had given by all odds the best results at this hospital, yet in a manner different from Dr. Sternberg's expectations. The action of the bichloride upon the kidney was marvelous. That a very large number of the deaths in yellow fever were directly due to suppression of urine was admitted by every one, and it was this symptom that the bichloride prevented or alleviated if taken in time.

The records of the hospital would show that in all cases treated without the bichloride the amount of albumin had averaged from twenty to thirty per cent. in ordinary cases, while in the urine of patients of like conditions on the bichloride treatment the average had been only from a trace to ten per cent. of albumin. Of all patients treated with bichloride from the start, but two had had suppression of urine; in both of these cases the bichloride had been discontinued because of gastric irritability for fully twenty-four hours before suppression symptoms set in. Had the speaker known as much about this effect of the bichloride as he now did, he would have continued its use hypodermatically.

In experimenting with the bichloride he had found that in a series of six cases one twentieth of a grain of bichloride had produced cramps and diarrhœa in from six to eighteen hours; one thirtieth of a grain had been given in a hundred and thirty-two cases without constitutional effects until the temperature had become normal, except in seven cases, one of mild cramps and six of salivation; one fortieth of a grain, one fiftieth of a grain, and one sixty-sixth of a grain had been used in several cases, each without any constitutional effect.

At first Dr. Sternberg's formula had been used exactly as he had recommended; *i. e.*, bichloride of mercury, gr. $\frac{1}{66}$, and bicarbonate of sodium, gr. x, given in thirteen drachms and a half of ice-water every hour; this had been modified somewhat from time to time, and the prescription as ultimately used was:

℞ Sodii bicarb...................... gr. x–lx;
Hydrarg. chlor. corros........... gr. $\frac{1}{30}$;
Aquæ puræ...................... ℥ iv. M.

Sig.: Give *ice-cold* every hour during the day and every two hours at night.

What effect the alkali had, unless that ascribed to it by Dr. Sternberg, he could not say.

He did not believe that the alkali acted upon the kidneys as a diuretic; that effect came from the bichloride, as shown by a series of forty patients treated by the bichloride without the alkali; so too the diminution in quantity of albumin was attributable to the bichloride.

That the alkali did exert a decidedly favorable action he was positive.

He had examined hundreds of stools, finding fully ninety per cent. of them acid in reaction, until the alkali was given freely; under the free use of the alkali treatment the reaction of the stools invariably became alkaline in from one to three days.

During the last few days, before the hospital was closed, the speaker had become so satisfied in his own mind of the efficacy of the bicarbonate of sodium that he had put all patients upon the bichloride and alkaline treatment and had discarded the use of the bichloride alone. Since the hospital had been closed and he had had time to go through his charts and records, he had found that one hundred and six had been treated by the bichloride and alkaline treatment with a mortality of five, and that forty had been treated by the bichloride without the alkali, with a mortality of nine. A too hasty deduction must not be drawn from this, however, for the records showed that, though patients had been assigned to the different treatments in rotation, as they entered the hospital, yet the cases treated with the bichloride alone had been, as a class, more severe from the start than those treated with the bichloride and alkali. Of the six patients who recovered after black vomit, five had been treated with the triturated bichloride and one with the bichloride and alkali. The mortality of the entire epidemic had been about nine per cent.; the mortality among the colored had been less than two per cent., while the mortality among the whites had been over twenty per cent.

As to the contagiousness of yellow fever, the speaker did not believe in it; his experience at the hospital had proved conclusively that it was not even mildly contagious. If a yellow-fever patient was removed from the infected area, all infected clothing removed, and a thorough disinfecting bath given, it was impossible for yellow fever to develop from that case provided stools and vomited matter were disinfected; this could be made of practical importance in quarantine.

The type of fever had not been the exact counterpart of the West Indian yellow fever, the malarial element being visible in most of the cases.

He believed that Dr. Sternberg's treatment would prove to be a potent factor in the treatment of yellow fever in the future, and would aid in reducing the mortality to such an extent that the name "yellow fever" would lose its terrifying power.

Dr. L. W. **Hubbard** asked the speaker if he had arrived at any conclusion as to the primary cause of yellow fever, and whether he thought the infection was conveyed directly from one patient to another.

Dr. Mitchell replied in the negative to the first question. He had had no time to do microscopical work, but he thought the poison allied to the malarial in its action. The danger was at night entirely; the sun dissipated it as it did the malarial. The view of Sternberg and Gibier that the organism producing the disease was found in the alimentary tract, he thought, had no foundation in the ætiological or clinical history of the disease. The tendency to hæmorrhage could easily be accounted for by the disintegration of the blood from the presence of an organism there, but, so far as he knew, no examination of the blood had been made. Recently he had received a slide specimen of a bacillus found by Gibier in the duodenum, which he considered to be the cause of the disease. The speaker thought there was no reason for supposing it had any relation to yellow fever at all.

In reply to the second question, he thought the poison was generated in the infected area, or from infected material. He believed, as he had stated, that a yellow-fever patient could be removed from an infected area, and, if stripped of his infected clothing, would not spread the contagion. He did not believe that the period of incubation of yellow fever was over six days, though some of the books made it forty.

The President asked whether the infected area around Jacksonville had been small or large.

In reply, Dr. Mitchell said that the infected area had been small, and the fever had spread very slowly. Very slight obstacles also, such as a difference of a foot and a half in the elevation of two sides of a street, had interfered with its progress. The limit of the infected area had been about half way from the city to the Sand Hills Hospital. For a week before he left Jacksonville there had been no cases in the city proper.

Dr. Pope inquired if Dr. Mitchell knew of any reason for the immunity of the negroes, as he believed they were very fond of going out at night; also why the rate of mortality was less, and if the doctor had seen any bad results from the use of antipyrine.

Dr. Mitchell thought that possibly the immunity of the blacks might be explained on the same grounds as that of the Cubans, as the majority of them had had the disease in childhood, and then it was about as mild as measles. After the second month of the epidemic in Memphis the negroes had been attacked. In Jacksonville no negroes had been taken down till about the end of the first month. He thought the difference in mortality might be due to the fact that the blacks, as a rule, could stand any amount of fever. A high temperature seemed to have no bad effects. He had had one case where the temperature for eight days had never gone below 104° F., and most of the time had been 105·5°, without producing any special effect. The common expression was that "you could not kill a negro with yellow fever unless you clubbed him on the head." One physician, who had had an exclusive negro practice, had professed to have treated seven hundred cases, with only three deaths. He had seen no bad effects from antipyrine in yellow fever.

Dr. Carlisle asked if there had been any difference in the height of the temperature in acclimated and unacclimated patients.

Dr. Mitchell had not noticed any difference in the height, but he had noticed that in the unacclimated patients the high temperature occurred in the first two or three days, and then kept falling, while in the acclimated it frequently assumed a remittent type. In these cases quinine had acted well, showing an undoubted malarial element. In cases of pure yellow fever the spleen was not enlarged, and he had never found anything at the autopsy but the *café au lait* liver and nephritis. He thought the characteristic temperature and absence of splenic enlargement were points of diagnosis.

In reply to a question of Dr. Baldwin, Dr. Mitchell stated that the first cases of the epidemic had been mild and had kept increasing in severity until near the close, when the mortality had again diminished. In Savannah the board of health had been able to keep the disease from the knowledge of the people for a month.

In conclusion, Dr. Mitchell said he had been asked since coming North in regard to the "yellow-fever pulse," and he would reply that at first it might or might not be slow. Usually it ran from 90 to 100, with a temperature of 103° to 104° F. or more, but sometimes the pulse would go over 100. One of the nurses who had come from the North had had a pulse of 136, with a temperature of 103·5° F. After the third day the characteristic pulse was always noticeable. It kept dropping down to 80, 70, and 60. In three cases it had fallen to 44, and in one case to 26. It had been suggested to him that this might be due to the bile salts being set free during the period of incubation and thus depressing the pulse. The black vomit usually came on when the temperature fell. Dr. Potts, who died, was an exception, as in his case the black vomit appeared when the temperature was 105·5° F. The primary fever lasted, usually, from five to seven days, but in fatal cases from three to five days.

# Miscellany.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending March 8th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y. | March 2. | 1,556,476 | ...... | .. | .. | .. | .. | .. | .. | 6 | 50 | 35 | 26 | 18 |
| Philadelphia, Pa. | March 2. | 1,040,245 | 425 | .. | .. | .. | .. | .. | .. | 18 | 6 | 6 | 2 | 8 |
| Chicago, Ill. | March 2. | 830,000 | 296 | .. | .. | .. | .. | .. | .. | 9 | 4 | 16 | 5 | .... |
| Brooklyn, N. Y. | March 2. | 814,505 | 365 | .. | .. | .. | .. | .. | .. | 1 | 6 | 27 | 7 | 11 |
| Baltimore, Md. | March 2. | 500,343 | 158 | .. | .. | .. | .. | .. | .. | 4 | 2 | 2 | .. | 1 |
| St. Louis, Mo. | Feb. 23. | 440,000 | 161 | .. | .. | .. | .. | .. | .. | 1 | 2 | 10 | 4 | 3 |
| San Francisco, Cal. | Feb. 22. | 330,000 | 111 | .. | .. | .. | .. | .. | .. | 4 | .. | 2 | .. | .... |
| Cincinnati, Ohio | March 2. | 255,139 | 114 | .. | .. | .. | .. | .. | .. | 2 | .. | 6 | .. | .... |
| New Orleans, La. | Feb. 23. | 254,000 | 93 | .. | .. | .. | .. | .. | .. | 2 | .. | 3 | .. | 1 |
| Detroit, Mich. | March 2. | 250,000 | 59 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .... |
| Pittsburgh, Pa. | March 2. | 230,000 | 94 | .. | .. | .. | .. | .. | .. | 3 | 1 | 2 | 6 | 3 |
| Washington, D. C. | March 5. | 225,000 | 100 | .. | .. | .. | .. | .. | .. | 1 | 1 | 3 | .. | 2 |
| Milwaukee, Wis. | March 2. | 210,000 | 63 | .. | .. | .. | .. | .. | .. | 1 | 2 | 1 | .. | 1 |
| Louisville, Ky. | March 2. | 200,000 | 61 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | 1 |
| Minneapolis, Minn. | Feb. 23. | 180,000 | 40 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Minneapolis, Minn. | March 2. | 180,000 | 49 | .. | .. | .. | .. | .. | .. | 1 | .. | 7 | .. | .... |
| Newark, N. J. | Feb. 26. | 179,139 | 104 | .. | .. | .. | .. | .. | .. | 3 | .. | 4 | .. | 2 |
| Providence, R. I. | March 2. | 127,000 | 60 | .. | .. | .. | .. | .. | .. | 2 | .. | 1 | .. | 2 |
| Richmond, Va. | March 2. | 100,000 | 29 | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .... |
| Denver, Col. | March 1. | 100,000 | 31 | .. | .. | 1 | .. | .. | .. | .. | 1 | 1 | .. | .... |
| Toledo, Ohio | March 1. | 80,000 | 19 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Camden, N. J. | Feb. 21. | 70,000 | 26 | .. | .. | .. | .. | .. | .. | 4 | 1 | .. | .. | ... |
| Nashville, Tenn. | March 2. | 65,153 | 24 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Fall River, Mass. | March 2. | 65,100 | 26 | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .. | .... |
| Charleston, S. C. | March 2. | 60,145 | 31 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Lynn, Mass. | March 2. | 50,000 | 21 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Manchester, N. H. | Feb. 23. | 42,000 | 18 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Galveston, Texas | Feb. 15. | 40,000 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Galveston, Texas | Feb. 22. | 40,000 | 14 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me | March 2. | 40,000 | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Erie, Pa | Feb. 16. | 39,000 | 13 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Council Bluffs, Ia. | Feb. 23. | 35,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| E. Saginaw, Mich. | March 2. | 33,000 | 9 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Altoona, Pa. | Feb. 23. | 30,000 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa. | March 2. | 30,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Auburn, N. Y. | March 2. | 26,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass. | March 2. | 25,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newport, R. I. | Feb. 28. | 22,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Keokuk, Ia. | March 2. | 16,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Pensacola, Fla. | March 2. | 15,000 | 7 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |

**The Health of Michigan.**—According to the State Board of Health's Report for the four weeks ending March 2, 1889, diphtheria was reported from thirty-one places, scarlet fever from fifty-two places, typhoid fever from eleven places, measles from seven places, and small-pox from ten places.

**The Discoverer of Hydrogen.**—"Yet another pretender for posthumous fame has sprung up," says the "Lancet," "and, as usual, his claims are urged by an eager compatriot. It is so frequently a compatriot who endeavors to reform the history of science that the motive might almost be assumed to be a jealous longing for the reflected glory which each great discoverer is supposed to shed upon those of his own nationality. The history of the separation and recognition of hydrogen has now been questioned, and we are asked to give up our belief in Cavendish and to bestow the credit upon a French doctor, Theodore Turquet de Mayerne, who was physician to our Charles II. What a boon it would be if every one who believed he had added one new fact to the sum of knowledge would proclaim it loudly in no uncertain tones! It is wearisome and mostly profitless to wade through the ambiguous language of earlier investigators in the endeavor to settle these international disputes."

## THERAPEUTICAL NOTES.

**A Mexican Remedy for Venomous Bites.**—Espantavaquero and Quiebraplato are names applied in Zacatecas, Charcas, and other parts of Mexico to a plant that is said to have been used with good results in cases of the bites of venomous and rabid animals. The "Deutsche Medizinal-Zeitung" for February 11th gives an abstract of an account published in the "Médico Científico" for August 15, 1888, of the cases of two persons who had been bitten by a rabid wolf, one on the lips, the cheek, the breast, and the shoulder, and the other on the breast and the cheek. In both instances the plant was used within twenty-four hours after the injury; both patients recovered perfectly and were still living at the time of the publication, long after the reception of the bites. It is added that snake-bites are often treated quite as successfully with the same plant. The method of using it is as follows: The bulb is bruised and water is added to the milky juice thus pressed out. Three cupfuls of the mixture are drank, and this suffices for the cure. The leaves, in addition, are bruised and applied to the wounds in the form of a poultice.

**Rotter's Antiseptic Compound.**—A correspondent writing from Munich, and referring to the "Münchener medicinische Wochenschrift" for Nov. 27, 1888, says that Dr. Rotter, having made a number of experiments with the purpose of producing such a combination of the chief antiseptics as would be sufficient for local antisepsis and at the same time so weak in any one substance as not to be poisonous, has settled upon the following formula:

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|---|---|
| Carbolic acid | 2·00 grammes; |
| Chloride of sodium | 0·25 gramme; |
| Corrosive sublimate | 0·05 " |
| Chloride of zinc,<br>Sulphocarbolate of zinc, each | 5·00 grammes; |
| Boric acid | 3·00 " |
| Salicylic acid | 0·60 gramme; |
| Thymol,<br>Citric acid, each | 0·10 " |

To be dissolved in a litre of water.

It is stated that this solution does not cause pain, has no unpleasant effect on the skin, and does not injure instruments.

**A Stimulating Punch for Patients with Collapse.**—A contributor to the "Union médicale" for December 15, 1888, recommends the following compound:

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|---|---|
| Tea | 2½ drachms; |
| Alcohol or rum,<br>Syrup, each | 5 ounces; |
| Water | 8 " |
| The juice of a lemon. | |

**Antipyrine as an Antigalactic.**—Salemi ("Bull. gén. de thérap."; "Dtsch. Med.-Ztg.," Feb. 11, 1889) has succeeded in repressing the mammary secretion in a primipara by means of antipyrine after having failed with numerous other agents. He gave eight grains in three doses daily. The secretion was much diminished on the first day and had wholly ceased on the third day.

**Rhamnus Catharticus as a Remedy for Toothache.**—Gretschinsky ("Droggisten-Ztg.," 1888, No. 44; "Nouv. remèdes," Dec. 8, 1888) has found a decoction of the bark of *Rhamnus catharticus* (*écorce de bourdaine*) cause complete cessation of the pain when introduced into a carious cavity on a bit of cotton. He directs 10 parts of the bark to be boiled in a quantity of water which, after straining, will leave 20 parts of liquid, to which 1 part of alcohol is to be added.

**Cocaine Anæsthesia in the Extraction of Teeth.**—In the "Archives of Dentistry" Dr. George S. Staples says: "Thoroughly dissolve twenty grains of cocaine in one ounce of ether (concentrated), and add one ounce of pure oil of peppermint; shake well before using. I have used this preparation for about two years, and, after having tried almost everything offered to the profession, find it gives better satisfaction than anything I have ever tried. In fact, for extracting sore teeth and fangs, where the inflammation is so great as to partially loosen them, I find it almost entirely does away with the pain, when applied from six to twelve minutes."

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Original Communications.

# ACOUSTICS OF THE HUMAN CHEST IN PHYSICAL DIAGNOSIS.*

### PART II.

By JAMES R. LEAMING, M.D.

In a preliminary article which I had the honor to read before the New York Academy of Medicine on the 6th of December last I considered (1) the chest-wall as inclosing an acoustic chamber, (2) the lungs and convective tubes, and (3) the heart and blood-vessels as acoustic factors capable of originating sound-waves within the acoustic chamber. And, lastly, I made reference to the organ of hearing and to the instruments and methods of auscultation, mediate and immediate.

This brings us naturally to the practical application of chest acoustics, to the true interpretation of the physical signs of the heart and lungs in health and in disease.

Sound is caused by vibrations which send off sound-waves into the air, the universal sound medium, spreading out in every direction until they finally die away from diminished force. Causes of primary vibrations are readily illustrated by air forced through a tube, by a tense cord over which a bow is drawn, by a bell, or a bar of steel fastened at one end, set in motion by a stroke of a hammer or otherwise.

It is necessary, in order that the vibrations should produce sound-waves, that they should have definite force and frequency. The force of the primary vibrations must be sufficient to send off sound-waves into the air, and of frequency somewhere between thirty-two and forty thousand. Less than thirty-two produces a sensation of distinct noises, and more than forty thousand ceases to give off sound-waves. The designations of high pitch and low pitch have reference to the frequency of vibrations, and are of practical importance in determining the density of sonorous bodies under examination. High pitch denotes density, low pitch porosity. The pitch enables us to measure the number of vibrations in a second in any body under examination, determining the density; for, with an instrument called the siren, we can measure the number of vibrations in a second in any pitch, which brings acoustics under mathematical demonstration as an exact science, especially including auscultation of the human chest.

There are other limitations of hearing than those of pitch and loudness, which are more readily understood by comparing them with color-blindness in sight, the persons with such deficiency in either case not being themselves aware of it. Engineers and flagmen on railroads are examined in regard to their perceptions of differences in color in the protection of the lives and bodily safety of the traveling public. Why should not also the medical student, before devoting himself to physical diagnosis, test himself, or have himself tested, in regard to clang*-deafness before taking upon himself the responsibility of making delicate diagnoses where failure to appreciate the tone differences in the acoustic signs may lead to a plan of management fatal to the patient?

These inquiries approach the domain of æsthetic taste at the same time that they have the solid foundation of practical truth.

The entirely correct ear in auscultation gives its possessor pleasure in listening to natural sounds in the fields, in the forests, on the extended plains, or on the mountain-tops—all of which are but dreariness to one who has not that inner sense of the beautiful in nature dependent upon tone appreciation.

In the wonderful music drama of Siegfried the natural sounds in the forest—the singing of birds, the drone of insects, the sighing of the wind among the leaves of the trees—are reproduced in music, the "Waldweben." The correct acoustic sense that fits the student for an auscultator will be delighted and appreciative; but the clang-deaf will not see or hear the melody. It must be noted that this higher quality of tone recognition is entirely different from memory of a tune, which is memory with a sense of time and rhythm only, and enables its possessor to learn and sing "The Marseillaise" or "God save the Queen" without a thrill of delight in their harmonious chords and spiritual suggestions.

It is an interesting point to determine by trial whether the color-blind are also clang-deaf, which would show, if decided in the affirmative, that the deficiency is not owing to any mechanical fault in the structural formation of the organs of sight or hearing, but is essential in the organic or spiritual life of the body. One fact is demonstrable—that the senses of hearing and sight may be greatly extended in range and accuracy by cultivation. This is seen in experts in music and painting. Culture increases the power of discrimination and delight in color and in tone in the masses, while the exceptionally sensitive sense of sight or hearing will be increased thereby to expert excellence.

Primary vibrations may be conducted, reflected, or consonated. If there is in contact with the vibrating body another body or structure capable of being set into vibrations, the vibrations of both will be in unison; or, as in case of the lung connected by adhesions to the chest-wall or by intermediate structures, or by tense cord-like adhesions of any length, then the secondary body—as the chest-wall is when the lung is adherent—may give off sound-waves which will pass into the air the same as if coming from a primary source. The familiar example of direct conduction is the one given of scratching the end of a log with a pin by one person while another listens at the other end, fifty feet away, and hears by illusion the sound under the ear. In such a case there is no solution of continuity, nor is there in the consolidated lung, by which also there is direct conduction. Indirect conduction of sound takes place when there are adhesions of parts to parts adjacent, as of the pericardial sac to the lung, and the lung to the chest-wall, then the heart's sounds will be heard at the site of adhesion of the lung to the chest-wall, although the origin of the murmur may be in another direction and a long way off, and yet will seem to originate directly under the stethoscope, which fact may give rise to false diagnosis. For the natural intraventricular vibrations of a portion of the chordæ are in sound connection with the pericardial adhesion and are indirectly conducted into the chest-wall, while as yet there is no fault with the mechanism of the heart as a pump. This shows the fallibility of the stethoscope as an instrument of precision. The locality of the murmur in the chest-wall may be no guide to the local origin of the sound.

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* Read before the Medical Society of the State of New York at its eighty-third annual meeting.

* Helmholtz uses this term. It describes a tone with the partial tones and over-tones.

Indirect conduction may be illustrated by the violin. The strings are caused to vibrate by the bow primarily, but these vibrations are conducted by the bridge into the front or belly, which is made of straight-grained pine cut so that each fiber may vibrate separately and in unison with the strings. The sound-post conducts these vibrations accumulatingly to and against the back of the violin, which is made of maple or sycamore wood of interlaced fibers which can not vibrate in unison with the strings, but reflect the vibrations back into the air in the acoustic chamber. The sonorous material corroborates the vibrations at each passage from the strings to the bridge, from the bridge to the front, until they are reflected from the back into the body of pulsating air within the violin, which finally passes them out of the sound-holes into the open air.

Reflection of sound is the opposite of conduction, and in a sound-chamber prevents sound-leakage—in the violin through the back especially. In the human chest the pleural lining reflects equally from all directions. This acoustic fact becomes of diagnostic interest when adhesions connect the internal organs with the wall, or when they press against it as when swollen, or are hypertrophied, etc. Then sound-leakage takes place. Echoes are reflected sound-waves, either parallel or converging. Reflected sound pertains altogether to sound-waves—not to primary or conducted vibrations.

Consonation also has to do with sound-waves alone. It has nothing to do with primary or conducted vibrations. Let one sing before a sensitive violin, and each string will be made to give sound vibrations whenever its fundamental note is sounded. Consonation is one of the most frequent phenomena of the human chest, and is constantly made use of by auscultators practically in searching for consolidation of the lungs or interpleural adhesions or cavities, by sounding the voice in phonation, or whispering, or by the cough. Dr. Holden, of Newark, N. J., introduced a little instrument to the profession a few years ago which illustrated consonation practically. It was an India-rubber tube an inch in diameter, about fourteen inches long, with a metal mouthpiece at either end. The patient would breathe through the tube forcibly so as to create air-friction, while the auscultator would listen to his chest. If there were adhesions or any condensation of lung-tissue, it would be made evident at once by consonation and by the conducted sounds heard through the chest-wall; also, if there were cavities at the same time, it would diagnosticate them from tumors or consolidations, which otherwise may not so easily be done. When these principles of acoustics are applied—consonation, reflection, and conduction of sound—an interior view of the chest is opened to us as through a window. Much more is this evident in disease when we have previously applied these principles to the conditions of health.

The little group of air-sacs, six to thirteen in number, developed at the terminal ends of the air-tubes of the true respiratory system, forming a lobulette, do the principal work of aeration of the blood, the alveoli of the distensible tubes being but supplementary. The delicate muscular fibers over each alveolus and each air-sac contract upon the contained air which is constantly expanding under the influence of heat; and sound vibrations are thus caused during inspiration, and especially at its full; individually small, but collectively forming a body of sound of low note. This murmur is significant of the healthful action of the vital process of respiration. If it is interfered with by paresis of the enveloping muscular fibers, which always takes place in emphysema or in tuberculosis, the muscular susurrus, the true respiratory murmur, will not be heard. But when the disability is but temporary it is interesting to watch the gradual return of the murmur under successful treatment.

In centric pneumonia there is no other physical sign than the true respiratory murmur, except slightly raised pitch under percussion. This acoustic condition may remain scarcely changed for three or four days, but as soon as the pneumonic process has reached the pleural surface, immediately the physical signs show the fact. At once are heard interpleural râles and bronchial breathing, which denote consolidation of the lung and increased conduction of sound from air-friction in the tidal air-tract. The pneumonic condition existed just the same while there was yet no adhesion, but instantly became evident when sound-connection was established.

The early recognition of centric pneumonia gives time to prevent the pleural complications; a very important matter as regards pathological results. The greatly diminished true respiratory murmur over a definite area, corroborated by the slightly raised pitch, fixes the locality, completes the diagnosis.

To those who do not recognize the true respiratory murmur from want of attention or from imperfect sense of hearing, these cases are puzzling, for the rational signs indicate in a doubtful way the pneumonic state, pulse, temperature, and respiration slightly increased, with bloody or rusty sputa.

The recognition of the absence of true respiratory murmur in the center of the lung will enable the auscultator to make a correct diagnosis and to predict a sudden augmentation of all these signs and symptoms, physical and rational, in a given time—*i. e.*, just as soon as the pleura becomes involved, and the gluey exudation forms sound-connection between its surfaces.

In the normal chest the freedom of movement of the pleural surfaces gives evidence of health. For, as the lungs fill with air and the chest-wall expands, each little lobulette travels a little distance in inspiration and back again in expiration. If the ear or stethoscope is placed against the chest-wall, a multitude of these little resonating air-sacs, each attached to a terminal bronchus—a minute speaking-tube—will pass under review and give sound vibrations: 1st, of themselves in the true respiratory system; 2d, of the air friction in the tidal air-tract—which extends from the entrance into the mouth and nostrils, into the respiratory passages, down as far as to the fourth division of the bronchi—in which the air moves in a body; and, 3d, outside noises.

Respiratory murmurs are composed of these three elements, which are all intensified by passing rapidly in review in a lively movement of the lungs under the ear in auscultation. Interpleural adhesions fixing the lung in one place are denoted in this way by the feeble respiratory murmurs, even when the air-sacs are free to contract and dilate as usual.

Every elastic air-sac dilated with compressed air is a resonator the sounds consonated in which are, first, sounds outside of the body. Auscultators for this reason choose a quiet room in which to make their examinations, and sometimes, too, make the mistake of attempting to exclude outside noises by closing the opposite ear with the finger, which adds unnecessary confusion and shuts off nothing but their fixed attention. Second, the air friction sounds formed in the tidal air-tract, which are conducted to and consonated in the air-sacs, such as sounds of dryness or of roughness, of mucous râles, and of foreign bodies.

In the first stage of acute bronchitis the mucous membrane is dry and rough and the air friction gives sounds accordingly, which are conducted to the air-sacs by the bronchial tubes, in which they are consonated with increased intensity. Mucus formed within the bronchia moves forward and backward in inspiration and expiration, causing mucous râles, which also are conducted to and consonated in the air-sacs, especially when adhesions increase the conduction into definite localities. Many times the mucus and the râles are both immediately removed by coughing and expectoration. The mucus is a foreign body, and, like all foreign bodies, should be removed.

The following cases are briefly referred to as evidences of the value of acoustic signs in diagnosticating the presence and locality of foreign bodies in the air-passages:

Case I. *A Spanish Silver Shilling diagnosticated to be in the Third Division of the Right Bronchus.*—A man, hurrying to catch a ferry-boat, put the coin in his mouth for convenience, and during a forcible inspiration it passed through the larynx. He came to me in the afternoon of the same day and told me that he had "swallowed" a shilling, and that he thought it was in the lungs. I then believed that it was impossible that a foreign body could pass the epiglottis. Dr. Horace Green had then but lately announced his ability to pass a catheter through the larynx. A committee appointed by the Academy of Medicine, after experiment and inquiry, had reported its impassability. I told the patient so, "but," said he, "I think I can feel and hear it here," placing his hand upon his chest. I listened and heard a "flap" in just about the fifth interspace in the right side. Keeping my ear to the chest, in a few moments there was another "flap," sending the sound in another direction. I soon discovered that after each "flap" a certain area of the chest-wall ceased to transmit respiratory sounds, which only lasted until the next "flap," when another area of the chest-wall became quiet. I was convinced that the coin rested its edge upon the septum of the third division, and, valve-like, turned back and forth as the newly inspired air underneath became rarefied by heat. I directed him to get on his bed and place a cushion on the floor near the bed, and then to suddenly turn down and bump his head upon the cushion, which he did, and the coin was expelled with an explosive cough.

Case II.—Through the kindness of Dr. W. W. Jones I saw a man who, three days before, had passed a head of timothy through his larynx. He had placed the stalk between his teeth and was chewing it while giving directions in his stable, and, suddenly attempting to call to some one at a distance, he drew in his breath, and with it the dry head of timothy. One can hardly imagine a more frightful calamity. He coughed some, but did not think it necessary to send for Dr. Jones until the next morning, and even then he did not believe the timothy had passed the larynx, the symptoms were so much less than might have been expected. But they gradually became serious, and on the third day I was called in to auscultate him. There was then no true respiratory murmur and there were interpleural râles over both lungs, but on the right side there was conducted bronchial breathing down so low that I thought it involved the liver. The next day he coughed and vomited up a large amount of muco-pus, and in it was the denuded stalk of the timothy-head, after which there was cavernous respiration. The autopsy showed abscesses in both lungs and extensive interpleural adhesions.

Case III. *Blood in the Right Bronchus and Lung.*—This occurred in a surgical case in St. Luke's Hospital, New York. A man was operated upon, while under the influence of ether, for the removal of dead bone in the jaw caused by phosphorus poisoning. While he was unconscious the blood trickled through the larynx and bronchia into the true respiratory system beyond the tidal air-movement, where it speedily putrefied and formed abscesses which caused the patient's death. I saw the patient each day and was able to note the physical signs. The first day there were conductions of bronchial râles, caused by the moving blood within the tidal air-space, and obstruction of the true respiratory murmur. The next day there were interpleural râles over both lungs, although the blood had passed mostly into and through the right bronchus. On the third day there was local peribronchitis with consolidation of the surrounding lung. On the fourth day there were moist râles in and around the consolidations. On the fifth day there were cavities. On the sixth day there was general acute plastic exudation over both lungs. He died on the seventh day. The post-mortem showed that the pathological processes had been accompanied by the acoustic signs in each particular. This case was an "object lesson" of value to me—full of instruction in regard to the treatment of bronchorrhagic hæmoptysis, and makes plain the danger of attempting to arrest bronchial hæmorrhage for fear of getting a clot below the tidal air-tract, where it rapidly causes destructive inflammation and cavities, and the patient dies, as is said, but which is a mistake, of "*acute phthisis*."

Case IV.—The next case in time was Dr. Gurdon Buck's—*A Tracheotomy-tube in the Right Bronchus of a Patient at St. Luke's Hospital*—an account of which was published.

A man came into the hospital with gummy tumor occluding the larynx, and immediate tracheotomy was necessary. The next day the opening was enlarged and the tumor removed, and a tracheotomy-tube of hard rubber was introduced, corked, and tied with tape at the back of his neck. This was for safety in case any sudden swelling should obstruct the larynx, and he was allowed to walk about the grounds and corridors. After three or four days, on awakening early in the morning, he discovered that the tube was gone. The house-surgeon, Dr. Riggs, and the junior, Dr. Lefferts, were at once called, but the tube could not be found. At Dr. Buck's request I auscultated the patient and found acoustic evidence of the tube in the right bronchus. It had dropped down and the lower end was engaged in the very short first division, which is subdivided into two or three bronchia distributed to the apex of the lung. Over this region alone the air friction in the tube could be easily heard. A consultation of all the surgeons and physicians of the hospital was called for the next day, and the tube was removed with a curved forceps.

Case V.—*A Molar Tooth "swallowed" by a Man while etherized at St. Luke's Hospital.*—The house-surgeon, Dr. Lefferts, diagnosticated its presence in the left bronchus, but the patient utterly refused an operation until destructive inflammation had done its work. Dr. Lefferts requested me to auscultate the patient, and I confirmed his diagnosis. The tooth was impacted just above the third division of the left bronchus, and two abscesses in the lung below had resulted. I have a photograph of the tooth in the bronchus, kindly given me by Dr. Lefferts.

Case VI. *A Collar-stud in the Right Bronchus, occurring in the Practice of Dr. J. T. Kennedy.*—A boy playing ball, becoming very warm, took off his collar, and put the bone stud between his teeth, but, on his attempting to shout to another boy at a distance, the stud was carried through the larynx by inhalation into the right bronchus. It caused some irritation and cough, but his discomfort was not great. After some days, perhaps weeks, Dr. Kennedy brought the boy to my office for auscultation. There was acoustic evidence of a foreign body in the right bronchus, just above the third division, the broad button side of the stud being pressed against one side of the bronchus and the cone end against the other side, and the shank extended between. After a time plastic exudation took place in the pleural cavity and in the lung, and the father, who had before refused, consented to an operation, which was tracheotomy, and was performed by Dr. Markoe, who removed the stud with a curved forceps.

Case VII. *Dr. Lefferts's Removal of a Brass Ring from a Boy's Larynx by Operation.*—A brass wire, bent so as to make a nearly closed ring, was in a child's mouth, and a woman, endeavoring to get it out with her fingers, pushed it below the epiglottis. It remained there about two years, although the child had been taken to clinics and to different doctors without relief. By the kindness of Dr. J. L. Smith, the boy was sent to my office, and the ring was traced acoustically to the upper part of the larynx. I sent the patient to Dr. Lefferts for laryngoscopic examination, who confirmed the acoustic diagnosis, and removed the ring by an operation. The case was published by Dr. Lefferts.

Case VIII. *A Man with Part of a Peach-pit in the Right Lung.*—After several months it was coughed up, but not until it had caused permanent injury to the lung. In the mean time he was frequently examined at my office, the acoustic evidence showing that it had passed beyond the tidal air-tract.

Case IX.—A child, about two years old, "swallowed" a plum-pit, and it passed through the larynx and into the right bronchus, but its exact location was difficult to make out, because the child could not be kept still enough for a careful examination, and also because the true respiratory murmur is not fully developed until after twelve years of age, but it was presumably in the tidal air-tract. It was finally coughed up, being assisted by a blow upon the child's back by its mother.

Case X. *Dr. J. A. Wyeth, at Mount Sinai Hospital. A Little Dart, made of a Pin and Yarn, used by Children to blow through a Tin Tube at a Target, in the Right Bronchus.*—The boy inhaled, and the dart passed through the larynx and into the right bronchus. By the kindness of Dr. Wyeth, the late Dr. Elsberg and I were requested to examine the boy. Dr. Elsberg could see its shadow with the laryngoscope, and I had acoustic evidence of its presence just above the third division of the right bronchus, and that it moved up and down in respiration as thickened mucus frequently does. Dr. Wyeth performed tracheotomy, and the dart was removed.

These interesting cases of foreign bodies in the air-passages are summarily alluded to for one purpose only—to show with what certainty their presence can be ascertained by applying the laws of sound in auscultation.

I have already, in Part I, given an explanation of the mechanism of the heart's sounds as agreeing with acoustic law. In studying the philosophy of murmurs we must remember that the heart is inclosed in a sound-chamber, enveloped in a non-sound-conducting medium—the lungs—with the exception of the apex-beat area, in which the heart has sound-conduction into the chest-wall in perfection only, while the heart is in contact with it. There is at all times more or less conduction of sound, because of the immediate connection of the pericardium with the heart while the pericardium is in sound-connection with the chest-wall. So that the first sound (and the murmurs connected with it are the only ones formed within the heart) is heard in its entirety from its commencement until it is ended with, and emphasized by, the apex-beat. The second sound is formed by the forcible closure of the semilunar valves by the return blood in the aorta and pulmonary arteries. It is a door forcibly closed, and the sound is conveyed through the cardiac wall to the apex-beat area by conduction. It is also conveyed through the mediastinum into the sternum and adjacent chest-wall of the left side. The closing of the semilunar valves of both the pulmonary artery and of the aorta have the same source of conduction, the mediastinum, and into the same area. The different areas marked out by teachers and writers as separate localities of murmurs have existence only in their imagination. Because there are two sets of valves, a very short distance apart, it was imagined that there must be two areas, and so they were marked out.

Both hearts contract in absolute unison, the valves close in the same moment of time, and there is perfect synchronism of the two hearts' sounds—the first and the second. And the intervals of silence must remain in exact synchronitic proportion so long as the heart remains in perfect mechanism as a pump. The perfect rhythm of the heart's sounds and intervals of silence in the cardiac cycle becomes absolute proof of its perfection as a pump. The heart may be weak, irritable, and irregular in its action, but if the rhythm of the sounds and intervals of silence in the cycle is correct, there is no valvular disease, no matter what may be the disturbed action of the heart or the number and location of its murmurs. But as soon as the rhythm is altered, its extent will measure the amount of injury the heart has received, and then the murmurs of obstruction and regurgitation will define the locality and nature of the disease, even although conducted into the chest-wall by the common medium, the mediastinum.

Obstruction of the aortic orifice will cause a murmur which, by conduction of the mediastinum, will be heard at its point of attachment in the sternum and to a short distance into the chest-wall of the left side. It will also be heard in the course of the aorta, and especially in the right border of the sternum, through the attachment of the aorta to the chest-wall, for at these points there is indirect conduction of vibrations through the stream of blood into the chest-wall. The aortic and pulmonary signs part company at the first point in sound-connection through the mediastinum into the sternum which they have in common over the aortic valves.

The murmur vibrations at the right border of the sternum come through attachments to the aorta alone, and are conveyed in the stream of blood from their origin at the aortic orifice.

The regurgitant murmur at the aortic orifice will be heard in the sternum through the mediastinum, sometimes extending to the xiphoid cartilage, or in the stream of regurgitated blood against the heart's wall and into the chest-wall about half an inch from the valve, but occasionally to the apex-beat, this depending upon the force of the vibrations. So that the diagnoses of lesions of the aortic orifice and valves are generally easily made out, but the feebleness of the regurgitant murmur at times renders its recognition of difficult appreciation to those who have a limited sense of hearing, or where the acoustic conditions of the chest have been altered by inflammation of the lungs, or by effusion into the pleural cavities, or by hypertrophy of the heart, or contraction of the chest-wall bringing it over a large space into sound-contact with the heart.

Lesions of the mitral valve cause murmurs. The obstructive will be heard at the apex-beat area alone, but the regurgitant almost exclusively over an area at the back near the spine, between the seventh and eighth vertebræ of the left side. The stream of regurgitant blood strikes upon the wall of the left auricle, which lies in sound-contact with the œsophagus, the aorta, and the intervertebral cartilage. Whenever the murmur, the acoustic sign, is absent from this area, it may be safely asserted that there is no regurgitation. If there are no conditions causing intraventricular murmurs—that is, unusual vibrations of the chordæ tendineæ—the true regurgitant murmur *may* be conducted through the cardiac walls backward to the apex-beat area. But this is of rare occurrence and can only be the case when plastic exudations upon the chordæ prevent their sound-vibrations, or where the imperfection of the mitral valve is congenital and does not affect the normal vibrating conditions of the chordæ. Otherwise their excessive sound-vibrations drown those of the mitral lesion. These unnatural vibrations of the chordæ, representing mitral obstructive murmurs, demand special attention, as their frequent misapprehension is the cause of disastrous false prognostications.

We have endeavored heretofore to show that the joint sound-vibrations of the chordæ and the mitral valve in health give us the perfect first sound. Any cause within the heart or without, affecting the natural vibrations of the valve and chordæ, will alter the joint sound and cause an interventricular murmur, so sensitive are they to acoustic law.

If obstruction at the aortic orifice occurs, requiring greater muscular, contraction of the ventricular wall, the cardiac muscle, following the universal law, hypertrophies under the increased exertion. Hypertrophied cardiac walls with greater power of contraction increase the tension of the chordæ, multiplying the vibrations, and the raised pitch causes discord in the first sound, and becomes a multiform apex-beat murmur. Plastic deposit on the valves or upon the chordæ, lessening their vibrations, will also cause a murmur. Whenever a murmur is the result of physical change it is properly an organic murmur, even when it may be removed by treatment.

There are other forms of interventricular murmurs: those owing to neurotic conditions outside of the heart, as from chorea, from exhausting hæmorrhage, or from nervous excitation of any kind. Another frequent cause is adhesions of the pericardial sac to the lung, and of the lung to the chest-wall, producing an interventricular murmur conducted into the sound-area of the adhesions, even when there is no lesion in the heart, which might deceive the very elect were it not for the continuance of perfect rhythm of the heart's cycle. These murmurs are conducted often through a portion of condensed lung, which fact being made out is confirmatory evidence of the general innocuousness of these murmurs—such as are frequently in the space around the apex-beat area, where the heart is covered by a thin portion of the lung, and for the same reason over the region of the pulmonary artery. Many times they are merely conducted sound-vibrations of the chordæ, and do not at any time necessarily denote organic disease of the heart.

If the heart were removed from its case and envelopment of lung, still performing its functions, we might hope to arrive with greater certainty to the knowledge of the exact local origin of valvular murmurs. We could then place the ear or the stethoscope against the heart itself in search of the evidence of organic change. We could at least eliminate the outside causes of false murmurs by conduction. But the source of vibrations from valvular diseases or relative change in the capacity of the different chambers would still be within the muscular walls of a closed chamber, and absolute certainty could not be arrived at in that way. Is it, then, a wonder that we fail sometimes to make correct diagnoses by the ordinary methods in which we have been taught? But the application of the laws of acoustics is like introducing an electric light into the chambers of the heart and reading their secrets as by the light of day.

I have endeavored for many years past to make auscultation of the human chest scientific and more certain by the application of acoustic law. If I have in any degree succeeded in directing the attention of the profession to the practical application of the laws of sound in diagnosis of the chest I shall be well satisfied.

**The Pasteurian Treatment of Hydrophobia.**—"In a paper read before the Royal Hungarian Academy of Science at Buda-Pesth, Dr. Högyes ("Ctrlbl. f. Bakter.," No. 23) gave the results of his prolonged studies upon the Pasteurian treatment of hydrophobia. They were wholly favorable to M. Pasteur's method, which is described as being based upon a well-proved experimental ground. The practical application of the plan, the author stated, has shown good results from the statistical standpoint; while the method has introduced a new principle in the employment of protective inoculation, since it permits of the latter being effectually performed after infection has occurred."—*Lancet.*

# COMPLETE OBSTRUCTION OF THE COLON SUCCESSFULLY RELIEVED BY USING SENN'S PLATES.

## A PROPOSED SUBSTITUTE OF CATGUT RINGS.*

By ROBERT ABBE, M. D.,
SURGEON TO ST. LUKE'S HOSPITAL, ETC.

It has been with pride and gratification that surgeons here and abroad have watched the zealous and tireless energy of our countryman, Dr. Nicholas Senn, in his experiments to determine the value of certain expedients in rendering safe and sure the repair of injuries of the intestines.

After reading the published account of his experiments detailed in the "Annals of Surgery" for the current year, I doubt not most of us felt convinced that an important help had been rendered to the understanding of the action of repair and the assistance we might advantageously give. Without making extravagant statements, Dr. Senn offered one device for use in the restoration of the intestinal canal when complete obstruction had occurred that, it may be hoped, will replace the tedious, difficult, and frequently fatal operation of circular enterorrhaphy—namely, the approximation plates of decalcified bone. Whether it be in chronic obstruction, from neoplasms or strictures of the bowel, or in acute injury of the intestine from laceration with its accompanying shock, the vital condition of the patient is never so good that one does not fear for the result, especially if the shock of an operation is added which, in most experienced hands, can not be completed in less than from an hour and a half to two hours and a half.

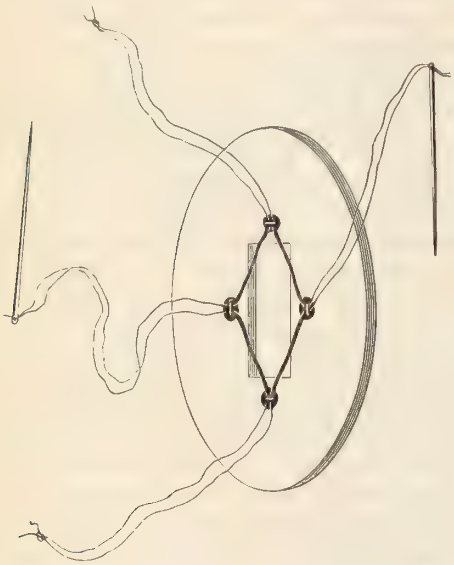

FIG. 1.—Senn's approximation plates.

We welcome, then, a method that with greater certainty and less shock completes, in from a quarter to a third of the time, the coaptation of openings made in the bowel on either side of the obstruction and establishes a continuous intestinal canal. Such a work is accomplished by Senn's plates. The principle is not entirely new, but its successful application had not been demonstrated until his experiments upon dogs put it upon a working basis. How far it can be relied upon in man has yet to be proved.

The principle, briefly stated, is to substitute for the tedious stitching of the lips of two longitudinal openings in adjacent portions of intestine a compression of those edges between two discs of bone placed within the bowel and tied tightly to each other, thus bringing about adhesion by approximation. The bone plates dissolve away in the course of time.

He found, in repeated circular suturing of the divided bowel in dogs, that a large proportion of them died from accidents to the sutures or from shock, while with approximation plates the results were uniformly safe, speedy, and successful. The method appeals to one's mechanical sense, if I may so speak, as eminently rational.

The patient whose case I will now narrate illustrated strikingly the adaptability of this method to certain cases:

He was a man, sixty years of age, of large build, though not fat. He had always followed the sea.

In November, 1887, I operated on him for three large hæmorrhoids, which had followed an increasingly constipated habit resulting from his abandoning the sea and leading a more sedentary home life. For four months prior to this operation he had much abdominal distress, flatulence, and distension, which occasionally culminated in severe cramps, followed by offensive fæcal discharges and relief. Such attacks occurred about monthly.

The last attack produced severe syncope. He had a fair appetite, but a heavily coated tongue. Urine, 1·023; no albumin; no sugar.

A free purgation brought away large fæcal movements, and the abdomen became flaccid.

In April last, four months after the operation for hæmorrhoids, he returned to the medical service of St. Luke's Hospital. Masses of a solid nature could be felt through the abdominal wall, slightly raised and shifting position from time to time. No immovable or very hard masses could be distinguished. The lower portion of the abdomen was prominent while the upper was relatively flat. The superficial abdominal veins were enlarged. Glands could be discerned in the right groin. There was some œdema of the legs, with varicose veins. Up to the time of the operation for hæmorrhoids he had been having a movement of the bowels of fair size on alternate days. Of late this interval had increased to four or five days, and then a movement took place only after violent cathartics.

In spite of physic, he became restless, vomited, had foul breath, and grew weaker; the voice became very faint, and the abdomen showed dullness and resistance down the right side over the cæcum and colon.

Some days later a sharp colic was followed by a stool with some relief. Then, after the use of podophyllin for some days, he had large movements and felt well again, so that he was discharged cured in June last.

He was again admitted September 5th in a worse state than before. He was treated by Dr. Kinnicutt for three weeks. The obstruction had become complete, and, though many of the severer purgatives were given, no movement was brought about except what was brought away by enemata. The abdomen was greatly distended and getting worse daily. Dull masses were felt in several places. Intestinal colic was severe. He grew apathetic, lost appetite, and became sallow. His pulse grew weaker and prostration greater. Partial syncope occurred from time to time.

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* Read before the New York Surgical Society, January 9, 1889.

The obstruction had become absolute, and when he was transferred to my care he was wasted away in face and body, but presented a very large abdomen. A few hours before operation he suffered complete syncope from pain and exhaustion, and it was thought by some who saw him that he would scarcely endure transfer to the operating-room. Judging from his thready pulse, shallow breathing, and complete exhaustion, it appeared to me that he could not have survived many hours without relief.

Under these circumstances, I opened the lower part of the abdomen, November 14, 1888, under cocaine anæsthesia, by a four-inch incision above the pubes, the patient seeming almost moribund, but feeling no pain. A pint of clear fluid escaped from the abdomen, and I found, on exploration with two fingers, an enormously distended intestine occupying the right half of the abdomen, which I judged to be not less than eight or ten inches in diameter, and which could be nothing else than the cæcum and ascending colon. Other coils of intestine within reach were distended to their utmost and felt semi-solid with fæces. None that I could touch seemed less than two inches and a half in diameter.

I at once decided to relieve the bowel through the wound, and therefore sutured the surface of the cæcum to the parietal peritonæum in the center of the wound and closed the abdominal cavity by suturing the ends of the incision. Then passing two loops of heavier silk through the entire thickness of the presenting portion of gut, I cut between them a free opening, and by these loops dragged up the cut edge and held it firmly during the subsequent evacuation, and ultimately stitched it thereby to the skin. A torrent of liquid and solid fæces and gas continued to pour out of the opening for ten minutes or more. The stuff had mingled in it innumerable foreign articles, such as fish-bones, some of them an inch and a half long; cherry-pits, grape and melon seeds by the hundreds, and large fragments of bones of the size of one's finger-nail; also scraps of oakum and yarn and some wood shavings and calculous masses. All of these were blackened by long residence in the bowel. I supposed these must have been swallowed to overcome constipation, but this he denies, and it must be supposed that they were swallowed in the ordinary habit of rapid eating.

As soon as the overdistension with gas and fluid had been relieved, the man began to rally from his shock. His deep breathing, restored pulse, brightened countenance, and lively interest in the procedure assured us of his recovery. A loose receptive dressing was applied, and fæces continued flowing for hours. A moderate estimate of the amount passed would be twenty-five or thirty pounds.

His convalescence was immediate and complete. His temperature record ran but little above normal. He soon began to eat ravenously, and in two weeks he had a manageable artificial anus through which he had two daily movements. A rectal enema was now given to locate the stricture. Three quarts of warm milk could be introduced, but none appeared at the wound. An enema-tube could be passed up to the left hypochondrium. By an injection downward through the artificial anus not more than three pints could be introduced; the inference was, therefore, inevitable that the obstruction was somewhere near the hepatic flexure of the colon. No hardness could be felt in the abdomen to locate the trouble.

Six weeks after this relief he was ready to have an operation done to overcome the stricture. On November 14th, having prepared him by preliminary catharsis and restricted fluid diet, I operated with the assistance of Dr. B. Farquhar Curtis. The artificial anus was closed by a plug, and rubber cloth secured over it by a broad adhesive strip. An incision was made in the right hypochondrium four inches and a half long parallel to and a hand's breadth from the median line. The ascending colon appeared and was traced down to the lower wound, thus identifying the site of the artificial anus in the caput coli. Tracing it upward, the obstruction was at once felt and seen. It was a hard mass, apparently a neoplasm, not larger than a small egg, which took in the whole circumference of the colon at its hepatic flexure. It was fixed in the loin so that it could not be raised. To have attempted its removal would without doubt have been fatal. I therefore brought together the ascending and transverse colons, as they lay very naturally side by side, and selected a point favorable for junction about four inches from the stricture. I then surrounded the gut a short distance beyond this by a strip of iodoform gauze passed through the mesentery and tied. A cut was then made an inch and a half long across one of the longitudinal bands of the colon, and into the bowel was slipped the bone plate, the needles holding the side sutures of silk piercing the entire wall of the gut at the longitudinal band. The same being repeated in the opposing gut, the parts were cleansed with boro-salicylic solution. The four sutures were then tied tightly and, as suggested by Dr. Senn, about four additional Lembert sutures of fine silk were taken in the serous coat just outside of the edge under pressure between plates. The coaptation seemed quite perfect without these, but, as the surface of the colon was not absolutely smooth, I thought it best to take them. The parts were again cleansed and returned to the cavity and the abdomen was sutured.

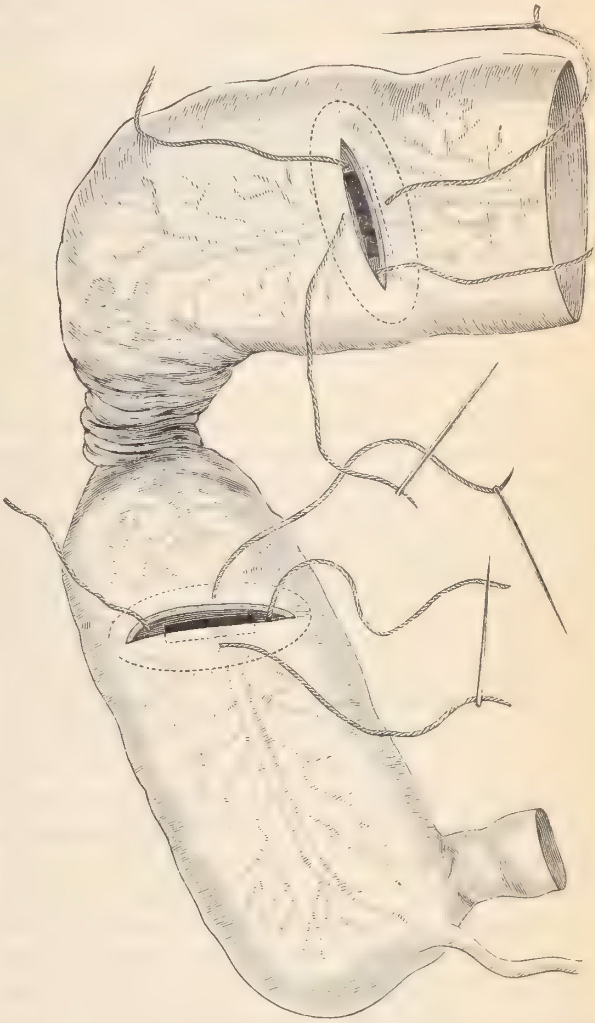

FIG. 2.—Senn's bone plates applied to colo-colostomy before tying together.

The patient's recovery was uninterrupted by pain or fever. On the third day a little wind passed the bowel. On the eighth a small piece of fæces of the size of a peanut escaped, greatly to the delight of the patient. Some fæces were allowed to come out of the artificial anus daily, but some came from the bowel also. On the tenth day a good, consistent movement took place *per rectum*—of small caliber, however. At two weeks a much better one occurred. The artificial anus was now completely plugged, and everything passed by the bowel. For the first month every movement but one was scrutinized for traces of the plates. That one was urgent, and the patient went to the water-closet unattended. Nothing has been seen of plates or threads. It is nearly eight weeks since the operation. The patient is already growing more fleshy than for years past, has good daily stools, and has been free from pain in his convalescence.

There remains yet a small fæcal fistula into the cæcum which can be plugged by a lead-pencil, the pad on which is changed twice each week, and from which nothing escapes as he walks about. I shall soon close this by dissecting it out, suturing the inverted edges, and dropping it back into the abdominal cavity.

I should have mentioned that before the recent operation the patient had five per cent. of albumin in his urine, and it was specially desirable not to subject him to a long operation.

The bone plates that one can secure from the makers seem to be limited in size so that an aperture between two intestines of an inch and a half is about the largest that can be obtained. While this may suffice for operations on the small intestine, it would seem desirable that the larger gut should have an aperture proportioned in some degree at least to its diameter to insure its not being blocked.

On endeavoring to obtain larger plates from Dr. Senn's instrument-maker, I found it took many days to prepare them, and that the largest scarcely made more of an opening than the smallest, while the disposition to warp and not coaptate so well seems to increase as the plate is made larger. It occurred to me that a ring might be composed of the heaviest catgut quite as absorbable and as firm as the softened bone. It can be made in a few minutes of any desired size, as shown in the cut, and thus are obviated the serious delays of sending to cities or special instrument-makers for the bone plates.

The preparation of decalcified bone plates involves two or three days' maceration in dilute 10-per-cent. hydrochloric acid, then washing half a day, and compressing between blotting pads with flat pieces of tin on either side until quite dry, which is a slow process at best. They warp if not tightly compressed. An oval opening has then to be cut or drilled in the plate, as well as openings for threads. Finally, threads have to be secured, by a scheme not easy to carry out, which connect each with the other.

If the plates were not at hand for use, the making of them would be a serious delay, and any effective substitute easily made will be welcome. The rings which I recommend for this purpose are made of the heaviest catgut softened in hot water until it ceases to twist upon itself. It is then formed in a ring of four strands on the ends of three fingers, and wound over and over with the same sized gut tightly applied. When completed, it is, as you see, stiff and flat, with no disposition to curl. The threads are quickly and simply adjusted around the ring and insure its making a firm pressure until it has dissolved in the bowel. The ring, if made to encircle the ends of four fingers, will be competent to establish a large opening in the colon. Such a ring will need more threads attached, and to this I can see no objection. Six threads for the largest ring would give an intervening space of three quarters of an inch. (See Fig. 3.) Each thread can be armed with its own needle, or a cambric needle threaded with a loop of silk can be used to pull each successive thread through the intestinal wall about a quarter of an inch from the margin of the opening. There is every advantage in thus giving each thread a secure hold on the margin. The elasticity of the ring, resuming somewhat its oval shape and holding the edges of the wound apart during healing, insures against two accidents which in experiments have occurred with plates: 1st, the partial closure of the orifice, and 2d, the blocking of the opening in the plate. This is directed to be made only five eighths of an inch long by a sixth of an inch wide, though in one set furnished me it is three quarters of an inch by a quarter of an inch—a size still too easily obstructed. In three of Senn's experimental cases this aperture was found to have been blocked by food or hair or a fragment of bone, which would not have occurred had a ring been used.

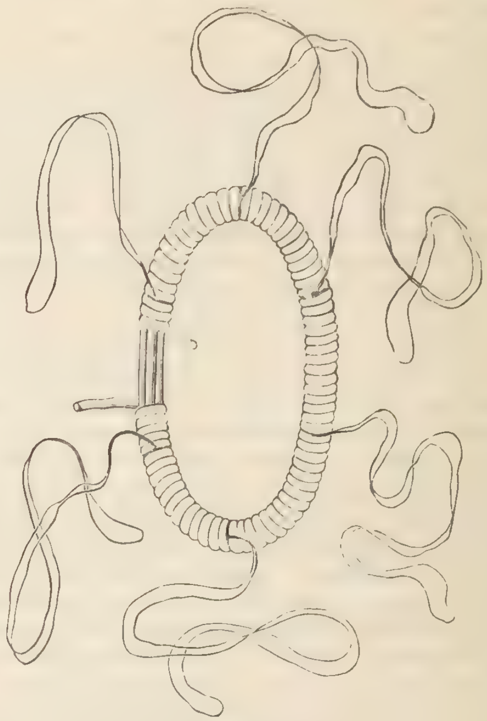

Fig. 3.—Apposition ring of catgut.

To prove the efficiency of this catgut apposition ring, I operated on January 1st on a large dog. Having divided the gut and sutured the inverted ends to complete closure (thus imitating stenosis), I re-established the canal by lateral apposition with rings.

I inserted four additional Lembert sutures to re-enforce fixation. The dog continued as lively after this as if nothing had happened, ate well, and defecated often. Nine days later I etherized him and excised two feet of the bowel to include the operated part, and then reapplied plates after suturing the ends as before. The anastomosis was perfectly established and the rings had been dissolved away.

The intestine was pervious to water, but there occurred a matting together of adjacent coils that was reparative to an extreme degree. The involved parts were securely buried in the mass. On the proximal side the gut was distended to nearly twice its caliber owing to the partial obstruction of the twisting coils, as well as the smallness of the aperture. I confess to a little disappointment in finding such an amount of contortion of the gut, and think it might have been better had I laid the gut not side by side with ends together, but with ends looking in opposite ways. Then the peristalsis would have been in the same direction for both parts.

Nine days after the second use of the catgut apposition rings, the dog having enjoyed excellent health and defecated freely, I killed him, and found the second beautiful specimen, which I show here with the first. The anastomosis between the laterally apposed gut is perfect, the union very solid, the rings dissolved and gone. Two of the silk ligatures still clung to the edge of the orifice, but would soon have worked out as the others had. The function of the gut was therefore restored admirably by this simple and quick procedure.

The cementing of apposed serous surfaces by plastic exudation during the first six or eight hours is, as Senn has shown, sufficient to hold the parts together, but at forty-eight hours union is so firm that severe internal pressure will not part the wound. The scratching of apposed serous surfaces with a needle-point before approximation, while not essential, is, as he has shown, the best method of promoting speedy organic union between them. I resorted to this in the second experiment. Senn has recently put on record four successful cases of gastro-enterostomy by plates, done by him within a year past. He writes me that there are a few other instances of its application by Dr. Fenger, Dr. Hunter, and others, but these are, I believe, not on record. It is evidently a method that appeals to the practical surgeon, and will unquestionably find greater favor every day.

My experiments indicate that the apposition rings of catgut may prove a valuable substitute. They are quickly and easily made, readily applied, and have the advantage of encircling a much larger aperture than the bone plates. This last feature obviates the distrust one feels in a small aperture of anastomosis, which must inevitably contract somewhat as time goes on.

As advocated by Senn, a few Lembert sutures should be applied outside the plates. This rule applies to the use of the rings also, and by the combination the apposition is proof against internal pressure.

NOTE.—Just before the publication of this paper the patient died of a peculiar accident, and has given an early display of the efficacious work of the plates. More than three months after the operation he had reached the height of convalescence, having better health than for many years, his movements being regular and his appetite hearty. He was suddenly seized with a painless diarrhœa that baffled treatment. For three weeks he became emaciated with unusual rapidity, and died exhausted. The post-mortem examination (see Fig. 4) revealed an adhesion of the duodenum, four inches from the pylorus, to the small knot of cancerous stricture of the colon, and secondary ulceration through it; so that all food passed directly from the duodenum into the colon, thus excluding the entire small intestine from its function. The artificial aperture shown in the cut still had the tangled threads attached firmly. The bone plates had long before dissolved away. The pelvis of the kidney was adherent to the hepatic flexure of the colon at the diseased point.

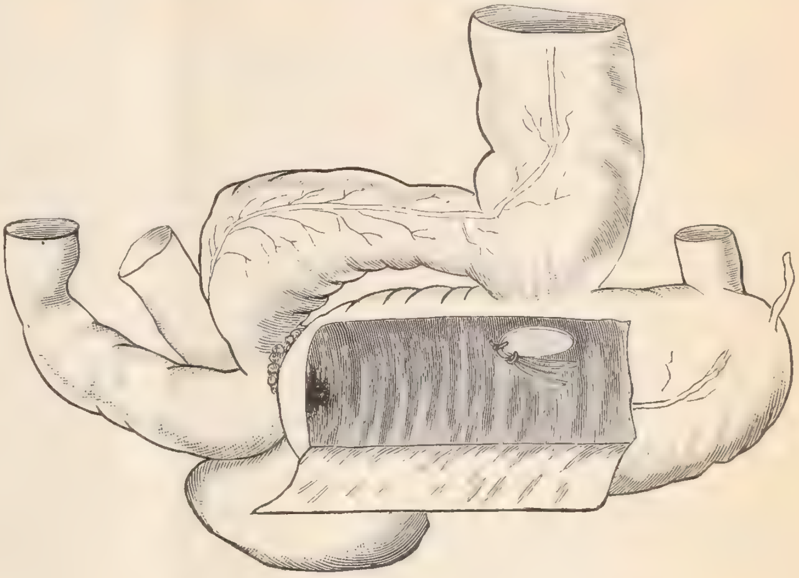

FIG. 4.

## COMMON MEMBRANOUS SORE THROAT.

By J. SOLIS-COHEN, M. D.,

PHILADELPHIA.

DESCRIBED by authors under the following heads: Nonmalignant membranous sore throat, diphtheritic sore throat, herpetic sore throat, aphthous sore throat, croupous angina, common membranous angina, herpes pharyngis, herpes gutturalis, angina membranacea, *seu* herpetiformis, *seu* aphthosa. A rather frequent form of sore throat, often confounded with diphtheria, occurring at all seasons, characterized by the exudation of products eventually fibrinous which coagulate upon the surface of the mucous membrane into a pellicle or pseudo-membrane.

The characteristic features are preceded for two or three days by those of ordinary sore throat. In most instances these symptoms supervene upon chill, with febrile reaction and subsequent manifestations of general systemic disturbance, such as headache, nausea, and intense fever, the temperature rising to 103° to 105°. Then the pain increases, glutition becomes painful for a few days, and the conditions to be described presently are observed. Recovery is usually spontaneous within ten days or less. In some subjects recurrences take place at short intervals for weeks or months, or even during years.

The disease is usually unilateral, and the corresponding submaxillary and cervical lymphatic glands sometimes become moderately swollen. It is maintained by some observers of unquestionable authority that within a few hours of invasion the initial feature of the local expression of this disease may always be detected on the palate and uvula, sometimes on the tonsils, less frequently on the pharynx, and occasionally on the hard palate. Small vesicles of the size of a millet-seed or somewhat larger are seen either isolated or in groups, with contents more or less turbid and surrounded by more or less vivid zones of inflammation. Actual tumefaction has been described (Potain, "Gaz. des hôp.," 1879, No. 11). Occasionally the vesicles disappear without traces after a day or two, and then there will be no membranous exudation. Some authors (Bosworth and others) restrict the term herpetic sore throat to these rare instances. So rarely is a case seen sufficiently early to detect the vesicular stage that this initial feature has been denied (Vogel). I have seen it in a very few instances. Most frequently the vesicles undergo rupture in from twenty-four to thirty-six hours, and the ruptured tissues present as small irregular excoriations which become covered almost immediately with a grayish-white plastic exudation. This exudation extends and becomes coalesced into contiguous patches which have commenced in the same manner. Ulcerated mucous surfaces in other parts of the body often become covered with the same sort of deposit during the attack, and even cutaneous surfaces likewise, but to a less extent. In some instances the vesiculation is limited to the uvula, sometimes to its posterior and inferior surfaces; and then sometimes the false membrane does not form upon the surface of the excoriations, but the mucous membrane becomes simply swollen and pasty looking. In some instances, and chiefly in children, the false membrane extends into the larynx. In some cases there is also herpes at the corner of the mouth, or on the inner surface of the lips or cheek, or on the tongue. In most instances the tonsils become slightly swollen, and then covered with a whitish or yellowish-white exudation, but slightly adherent. Sometimes there are accumulations of viscid, ropy, and turbid mucus. The soft palate and often its anterior fold, especially that portion in front of the swollen tonsil, acquires a fissured or corrugated aspect in many instances, and the membranous coating is distributed upon it more or less irregularly. If this be removed comparatively early, the surface is often found eroded and sometimes slightly hæmorrhagic. When removed at a later date, the mucous membrane appears normal, the erosions having healed up meanwhile.

The affection has been regarded as a herpes zoster of the trifacial nerve, the result of irritation of the spheno-palatine ganglion (Herzog, "Pester. med.-chir. Presse," 1880, No. 19; "Jahrb. für Kind.," 1880, December 23d).

A membranous sore throat precedes some cases of enteric fever, and attends the advanced stages of some cases of phthisis and syphilis, due to the lowered vitality which prevents reproduction of healthy epithelium. That form of sore throat is not the variety under discussion.

Exposure to emanations from the products of inefficient house drainage, ill-ventilated water-closets, or other fœtid accumulations, is often the apparent predisposing cause. The most frequent immediate cause of the attack is exposure to cold while the body is overheated or its cutaneous surface is in a state of active perspiration. Some patients are attacked almost annually, some oftener than once in a season. The disease is often contracted by susceptible subjects during the prevalence of diphtheria, and then it may become a starting-point for that disease. Under similar conditions it is sometimes endemic. Females are attacked more frequently than males, and young males more frequently than mature males. In some instances several females in a family or in a household will be attacked while all the males escape, probably because their vocations take them away from the continuous influence of the contagium in-doors.

The general subjective symptoms are those of acute sore throat, with marked febrile disturbances usually sthenic in type. The parts affected feel dry and hot, these sensations in many instances extending toward the ear, in some into the posterior nasal passages, in a few into the larynx. Glutition is often both difficult and painful. When the larynx is involved, there will be superadded hoarseness, dyspnœa, and cough.

Great difficulty is often experienced in diagnosis, especially because the disease is rarely caught sight of during the vesicular stage. Sometimes one or more of the excoriations left by the rupture of the vesicles can be detected. Sometimes small isolated islets of pseudo-membrane indicate recent formation by their transparency and their origin from a vesicle by their shape (Peter). The co-existence of cutaneous herpes is a corroborative indication, but is by no means an infallible guide. In many instances differentiation from diphtheria is impossible, the more so that diphtheria is sometimes precipitated by a membranous sore throat. On the whole, the elevated temperature—103°–105° F.—so out of proportion to the mildness of the symptoms, and the absence of any history of possible exposure to infection from diphtheria, especially when the patient is a female, may be regarded as important factors of diagnosis in doubtful cases. The distinction from mycotic sore throat is easy, because the latter is apyretic and intermittingly continuous, and presents evidences of the *Leptothrix buccalis* under microscopic inspection of the pseudo-membranous product.

The tendency of the disease is to recovery, except in some rare instances in which the larynx becomes involved and life gets into jeopardy from mechanical obstruction to respiration. In the majority of instances recovery is spontaneous in from seven to ten days. Occasionally, and especially in children, death ensues by apnœa from the results of extension of false membrane into the larynx. Recurrences are not infrequent. In some individuals they are so frequent as to constitute a chronic membranous sore throat. One of my patients had recurrences during a period of fifteen years. In these instances there is usually some local cause for recurrences at work in the patient's dwelling. In my own practice several patients, whose attacks were at least annual, and some of which were still more frequent during a series of years, acquired thorough immunity from recurrence after yielding to my urgent advice to move into more salubrious quarters.

Under debilitated conditions of system, common membranous sore throat will not be unlikely to merge into phagedenic ulcerous sore throat.

Paralysis of the palate sometimes follows recovery from common membranous sore throat.

When the diagnosis of common membranous sore throat can be made out with certainty, there is nothing calling for special treatment; but the treatment pursued in ordinary sore throat may be generally followed with advantage. It is practically a self-limited disease with a tendency to recovery. When fœtor exists, as during the detachment of patches of exudation, antiseptic and detergent sprays may be employed. Solutions of borax, boric acid, carbolic acid, potassium permanganate, hydrogen peroxide, etc., are appropriate. Lemon-juice is often an agreeable and an efficient application. In those individuals, especially strumous and tuberculous subjects, in whom there is a constitutional proclivity to chronicity, or to the recurrence of the peculiar manifestations, more active measures will be required. Locally, frequent application of the dilute acids—say, every day or two—affords the most satisfactory results. Internally, iron and cinchona preparations should be administered. Opium in small doses is of special efficacy, not as a narcotic, but as a gentle stimulant or nervous tonic. Nux vomica and arsenic may be employed for similar purposes. The diet should be highly nutritious and easily assimilable. Unnecessary exposure should be avoided. Supporting measures generally, hygienic as well as medicinal, should be persisted in. When membranous sore throat exhibits a tendency to phagedæna, the treatment for gangrenous sore throat becomes indicated. Common membranous sore throat may invite an attack of diphtheria, or the diagnosis may be in doubt. In that case the prudent course is to treat the affection as diphtheria, but to avoid the recommendation for diphtheria of some indifferent remedy during the exhibition of which a case of membranous sore throat has ended in recovery. When extension to the larynx occurs and threatens suffocation, tracheotomy or intubation to avert death should be practiced, as in croup or diphtheria.

In cases of recurrent or chronic membranous sore throat the cause should be searched for in the dwelling of the patient or in his place of vocation. Should either of these be found unhealthy, nothing short of change to healthier surroundings will be likely to be of permanent service.

1431 Walnut Street, Philadelphia, *February 7, 1889.*

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**Hysteria in the Russian Army.**—"According to Dr. Ozeretskofski, of Moscow," says the "Lancet," "the existence of hysteria among Russian soldiers is by no means an exceptional occurrence. The affection presents the same diversities of form that it does among women. Frequently men suffering from this affection are put down as malingerers. Other cases are looked upon as instances of serious but somewhat obscure organic disease, the true nature of the case being nearly always overlooked, because it is not generally supposed that soldiers are liable to hysteria. So real, however, does Dr. Ozeretskofski consider the exitsence of this male hysteria, that, having had an opportunity of studying no less than thirty-eight cases in the Moscow Military Hospital, he is convinced that hysteria ought to be recognized as one of the affections which entitle the subject of it to exemption from military service."

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# A CLINICAL PAPER ON THE TREATMENT OF FUNCTIONAL AND CATARRHAL DISEASES OF THE STOMACH AND BOWELS.*

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The purpose of this paper is to present the essential features of certain methods of treatment which I have found to be very useful. I shall endeavor to state them in a distinctly clinical manner, so as to show their practical application. It will be impossible to so enunciate them as to fit all cases, but I hope to convey an idea of measures that can be adjusted as they are needed. There is such a vast range between a functional derangement and an old chronic gastro-intestinal catarrh that no system of set rules can be made for uniform application. Accordingly, much will remain to be done in the way of wise adaptation by the good sense and skill of the physician. It is hoped, however, that the methods here outlined will prove to be generally applicable and of great service in one of the widest fields of practical work.

The first step in the treatment of functional and catarrhal diseases of the stomach and bowels, whether moderate or severe, is to obtain full control of the mental condition of the patient. Too much emphasis can not be put on this point, as failure here is sure to mean failure in the future. If there is a mental antagonism on the part of the patient to what the physician is attempting to do; if there is a lack of faith and willing co-operation; if there is, from first to last, a sort of secret indifference and resistance—then all treatment, no matter how judiciously advised and how worthily applied, is almost sure to result in failure. On the contrary, if the physician first obtains the confidence and respect of his patient, secures his cheerful submission to all instructions and requirements, and has his glad and hearty endeavor to help bring about a cure, then the principles and methods I am to offer are almost absolutely sure to result favorably, even in the worst of cases. All this can be done by patience and tact, and it is of first importance, because of that close relation existing between the brain, the sympathetic nervous system, and the organs of digestion. The influence of the mind over the body is simply tremendous, and both the patient and physician need to have such a great vital force working with determinate action toward health.

The second step in the treatment of these cases is no less important than the first. It consists in thoroughness, and repeated thoroughness, in examining into the patient's condition. It is in the highest degree essential to interrogate over and over again every organ, and to find out just how it is doing its work. To obtain the desired information there is no better method than carefully inquiring into the patient's habits of life, the duration and severity of his subjective symptoms, the significance of every physical sign, and then supplementing all this with a microscopical and chemical study of the blood, the urine, and fæcal discharges. Careful scientific study of the products of the system made daily is eminently important and useful. The reason lies in the fact that, if the machinery of the system is out of order, its products will be faulty; and hence, by studying abnormal products, one is enabled to read, as it were, the condition of the organs that made them so. If a study of the urine reveals the state of the kidneys, is it not just as reasonable to believe that a microscopic study of the blood and fæces will disclose the state of the stomach, bowels, and blood-making organs? It would seem to need no argument, then, to prove that a daily thorough investigation of the excretions and products of the system is, in the highest degree, useful. It is the only means of accurately determining to what extent patients are digesting their foods, to what degree the liver and kidneys are doing their work, and just what quality of blood is being made.

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* Read before the New York Academy of Medicine, December 20, 1888.

As a third preliminary consideration, it is highly necessary to place every patient under the most favoring hygienic conditions. In those cases where the affection is slight or limited, it may not be necessary to impose more than a few reasonable restrictions upon diet, habits of life, and hours of work and rest. On the contrary, where there is very much catarrhal disease of either the stomach or bowels, it is usually necessary to confine the patient to his home for a time, and carefully regulate his work, recreation, diet, and medical treatment. Indeed, everything pertaining to habits of business and life should be so regulated as to save nerve power, and the severer the disease the greater the necessity of this. To insure this result in bad cases, the patient should rest half an hour before meals and an hour and a half after meals. In other and still severer cases it is better to insist on the patient's resting, sleeping, if possible, from one to two hours every forenoon, or else on his not getting up until an hour and a half after breakfast, and retiring immediately after lunch and remaining in bed until the next morning. The great object and end is to so regulate the life of the patient as to avoid "overwork and underrest," economize nerve force, and acquire a quiet, calm, tranquil state of body and mind.

Having thus first gained the confidence and good-will of the patient and directed him in regard to his habits of life, his diet and rest, the next thing is to endeavor to remove from his stomach and intestines, and also from the kidneys and liver, all morbid material. As you are well aware, the lining of the stomach and bowels in the diseases under consideration becomes coated, as it were, with the morbid products of supersecretion and fermentation. The secretions, being in excess for a long time, become thick, tough, and stringy. They are highly acid and laden with the germs of fermentation. Moreover, as a rule, the liver and kidneys are in an abnormal state and burdened with an immense amount of morbid material. All these vitiated and unhealthy accumulations need to be eliminated from the system. In other words, the surfaces of the alimentary tract need to be washed off and the organs flushed out in order to put them in a healthy condition. Especially is it necessary to remove the bile from the blood and stomach. Every one knows that the effect of a large amount of bile in the stomach of a well person is to greatly interfere with the appetite and with the stomach digestion. If such is its effect in people who are otherwise well, it is not difficult to imagine what its presence does in the stomachs of those who are in poor health and suffering from catarrhal disease of the stomach. Hence the importance of freeing the stomach of vitiated, offensive mucus and bile by giving to it a rapid downward action. This can be done in several ways, but I know of none so simple, so grateful, and so effective as washing it out by drinking hot water. Long experience has now shown that quantities of hot water dissolve and liquefy the mucus and bile, stimulate the secretory and excretory glands, and excite downward peristalsis of the bowels. It is believed that morbid substances are rapidly eliminated from the system in some such manner. And this leads me to say that in such cases hot water needs to be taken systematically under the direction of a physician who appreciates its utility and knows what effect is to be achieved. At the beginning of treatment it is a good rule to order the patient to take one glassful an hour or an hour and a half before each meal and on retiring, increasing or decreasing the quantity according to the rule to be given further along. It should not be taken too hot, but about as hot as after-dinner coffee, or at a temperature of from 110° to 120° F. The patient should be charged to take it very slowly, consuming fifteen or twenty minutes in sipping a glassful, in order to avoid scalding the mucous surface of the throat and stomach. Water taken too hot may injure the lining of the stomach, produce a dry, feverish condition, or act too powerfully and promptly on the skin. There are other precautions to observe, which I will mention. If the glassful or more taken at bed-time causes too frequent urination during the night it can be dispensed with; if the patient has a weak heart, large quantities of hot water should be taken very slowly; if the patient has a tendency to hæmorrhages, the water taken should not be much more than lukewarm and should be taken very slowly; and if the patient is a woman subject to long-continued or excessive menstruation, she, too, should take water very slowly and at a low temperature. These precautions need to be observed so as to avoid ill effects and dangers that might otherwise supervene. If at any time the hot water is disagreeable to the patient, a little salt, pepper, lemon-juice, aromatic spirits of ammonia, or any innocent flavoring extract may be added to suit the taste. If hot water seems to nauseate the patient, its use should still be persisted in, since this is a positive evidence that the stomach is in a foul condition and needs cleansing; and, as evidence that cleansing does take place, it can be said that, after an abundance of hot water has been used for a time and the bowels get to acting from two to four times daily, as they frequently do, the discharges are often either black and sticky, or granular, like coffee-grounds, or else they contain masses of exfoliated, gelatinous mucus.

We often hear it said that the free and prolonged use of hot water tends to injure the system. Some say that it is weakening, that it weakens the nerves of the stomach, that it causes anæmia of the stomach, that it interferes with digestion, that it tends to produce a flushed face and cerebral hyperæmia, that it debilitates the alimentary tract, and that it causes a host more of most direful evils. As a rule, all these objections are theoretical and come from those who never used it intelligently and systematically, and hence are ignorant of the facts. In reply to such objections, all I can take time to say is that I have used hot water daily for six years without the slightest perceptible injury, and have seen only uniformly good results in persons for whom I have prescribed its daily and long-continued use.

As all are aware from experience, it is always a difficult problem to successfully feed patients who are suffering from diseases of the stomach and bowels. There has ever been a demand for some article of food that would not ferment, that would afford a maximum amount of nourishment, and that would be promptly and easily digested. At last such a food has been found, for we now know that an animal diet, or, to speak more specifically, good, well-prepared muscle-pulp of beef, can be relied upon for the purpose before named. Inasmuch, however, as beef varies greatly in its quality, it is necessary to exercise care in selecting that which is best, and this is found in the center of the round of a well-fatted, corn-fed animal from three to six years old. This portion is freest from fat and is the richest in those nutritive elements required by the human system. It should be given to the patient in the form of beef-pulp, which may be prepared by the process of scraping, or by passing it through a " chopper " made for the purpose. The object of such preparation is to remove all of the fiber and leave the pulp in a condition to be both palatable and easily digested. When the fat and fiber are entirely removed, the pulp can be made into cakes containing the number of ounces the patient is able to digest. These cakes should be from half to three quarters of an inch in thickness, care being taken not to pack them too firmly. The cake of beef-pulp is then to be broiled over a slow fire, preferably charcoal, until it is so cooked that the outside is of about the color of ordinary broiled steak and the inside of a pinkish hue. Great care should always be taken not to over-cook the beef-cake and so make it dry, brown, juiceless, and indigestible. If it is cooked just right, patients will not tire of it, it is more easily and thoroughly digested, and all dangers from tape-worm are avoided. In rare instances beef prepared thus is not palatable at first, and when such is the case it can be broiled between two pieces of dried or chipped beef, or a few oysters may be broiled with it so as to impart their flavor, or a few spoonfuls of beef blood or expressed beef-juice freshly extracted from the beef may be added. The effort should be to employ simple means to make the beef palatable to the peculiar tastes and fancies of the patient. The beef-pulp thus prepared should be given in small quantities at first, not over four or six ounces in a day, until its effects have been carefully noted. Later on, as the stomach and bowels become cleansed and more tolerant, the quantity may be increased to eight, ten, twelve, fourteen, or sixteen ounces at a meal. If patients tire of beef prepared in this manner, or if it is very distasteful to them, it is better not to insist on their taking it for a time, but to let them have instead a lean chop, or a small plain steak, or a little game of some kind, like broiled grouse or pheasant. This change, however, should be as temporary as possible and an early return made to beef-pulp, for from this comes the maximum nourishment from the minimum effort. If the functional or catarrhal condition is not too severe, a limited quantity of starchy food may be given, such as a small piece of stale roll, or a piece of dry toast about one or two inches square. It sometimes happens in these cases and under this restricted animal diet that the patient's appetite will seem to fail. When such is the case it is invariably due to either bile in the stomach, to undigested food, to a tired and depressed state of the nervous system, or else to a combination of all these conditions. Under such circumstances an effort should be made to cleanse the stomach as rapidly as possible by the even freer use of hot water, limiting to a greater degree the quantity of food taken, and insisting on more physical and mental rest. At the same time the nerve tone should be improved as rapidly as possible by tonics, massage, and electricity. But, inasmuch as patients differ and diseases vary in severity, it is easy to understand that set rules in regard to the quantity and temperature of water, or to the amount of animal food to be given, can not be laid down. The amount of hot water should be sufficient to maintain the specific gravity of the urine at about 1·014, and the quantity of meat should be as much as can be digested. Whether the patient is drinking enough, or is digesting his food properly, is to be decided by the physician and never by the caprice of the sick one. It is to be borne in mind that the object of the use of hot water and a strictly animal diet is to prevent excessive fermentation, which is the underlying cause of the diseased condition, and therefore it should be employed systematically and persistently.

It is alleged by some, who are ignorant of facts, that this single article of diet will bring on dyspepsia, Bright's disease, and other serious troubles, and that it tends to establish a sort of meat-habit, so that the organs of digestion will not tolerate other kinds of food. I will not take time to discuss assertions and theories, but simply say that, in the treatment of hundreds of cases according to the methods here given, I have never seen any evil results. On the contrary, patients are gradually brought around to a mixed diet as soon as safe for them ; the great majority get well, so that they can eat a reasonable amount of any kind of food, and in old chronic cases of twenty or thirty years' standing they are made comfortable and able to eat all that is necessary to supply the requirements of their system.

Having thus far dwelt on the general principles of treatment, I will now speak a little more specifically of the treatment of functional diseases of the stomach. In cases of this nature the patient should be held very closely to some form of animal food—such as the muscle-pulp of beef, beefsteak, lean mutton, white meats of fish and poultry, the pulp of oysters, well-fried bacon, and soft-boiled or poached eggs. The prepared muscle-pulp of beef may be used, but more to furnish variety than because really essential. But, as a rule, these cases will do better if the physician advises an almost constant use of either broiled or roast beef or mutton, eaten slowly and thoroughly masticated before being swallowed. It is also well to allow a very small quantity of starchy food, in the proportion of three or four parts of animal to one of starchy food by bulk. It is safest to advise a very small piece of dry toast—so dry that it will snap—or a piece of stale roll, or a small piece of stale bread, or a tablespoonful of well-cooked rice or cracked wheat dressed with butter, salt, and pepper. In the matter of vegetables it is well to advise a few tender sprigs of celery, a little water-cress, or a little horse-radish, prepared with lemon-juice instead of vinegar. Moreover, the patient should be directed not to swallow coarse particles of any of the substances named, and to eat a moderate quantity and very slowly. The drinks to be allowed at meal-times are a single after-dinner cup of black tea or black coffee, sweetened with saccharin if desired. If these are not well borne, a cup of hot water, flavored or not with lemon-juice, may be taken. If the functional cases are at all recent and these precautions are observed, it will require but a few days to show a marked difference in the fermentation and in the comfort of the patient. As soon as the uncomfortable feelings have disappeared, the products of fermentation eliminated from the blood, the symptoms and physical signs of fermentation gone, and as soon as the urine shows normal characteristics, being absolutely free from biliary coloring matter, the patient may be given a larger proportion of starchy food—say, one of starchy to two of animal food. In functional cases of stomach and bowel disease, patients are to be kept on this routine as to food and drinks for a few weeks or months after the evidences of excessive fermentation have ceased. At the end of this time the patient may be led up, little by little, to other foods—such as fresh garden peas, string beans, half of a baked potato, and a few peaches, prunes, or grapes. These should be given in small quantities at first, and, if they cause any trouble, they should be discontinued, and recourse had to a rigid animal diet until the digestion has returned to a normal state. And here let me say that it is surprising how little gas is contained in the intestines of people whose digestion is absolutely healthy. It is equally surprising to note the serious disturbance of the mucous membrane after a few weeks or months of excessive fermentation. On the one hand I have seen cases that have given evidence that fermentation had existed in excess for twenty or thirty years without perceptibly affecting the general health. On the contrary, I have seen many cases where the most serious structural changes had resulted after only a few weeks of indigestion and fermentation, either in the stomach or bowels, or else in both. It can only be said in explanation of this that one is endowed with great resisting power, while the other is not so blessed. In other words, these conditions work but little injury in robust persons, while in others of less resistance and stamina they may cause decided damage and great suffering. Therefore I do not put very great stress upon fermentation and gas when they occur in people of good health; but they do have a very decided meaning when the health begins to fail and there are indications of serious structural change in the mucous surfaces of the stomach or bowels.

In the more strictly catarrhal states of the stomach or bowels, or of both, their lining becomes coated with an excess of sour, offensive, adherent mucus. This material is in a large degree a ferment, and, as a consequence, sweet and starchy foods are soon transformed into a sour, yeasty, irritating, and injurious liquid. If this state of things is long continued, it almost inevitably causes either vomiting of highly acid irritating liquids, or else frequent discharges from the bowels of gaseous products, undigested food, and thick, stringy, gelatinous mucus. The mucus thus cast off may be like the white of an egg, only more yellow; or a thin, black, gelatinous substance; or a thin, stringy material resembling wet tissue-paper; or, lastly, a distinct membranous exfoliation. It is in cases of this kind that an abundance of hot water, long continued, is of the highest utility for washing out the products of fermentation and keeping the surfaces in a fit condition for digestion and absorption. This practice must be continued and persevered in for months and years before the alimentary tract becomes thoroughly cleansed and restored to the power and function of normal digestion. In catarrhal cases of the stomach the best food is the muscle-pulp of beef, prepared in accordance with the methods described, and given as the patient is able to digest. It is well to hold patients on this diet from one to three months, because it is the only one that can be anywhere near perfectly digested. Later on other foods can be resumed, but with great caution. Among the first foods to be given should be fresh garden peas, string beans, fresh milk warm from the cow, a little tomato, or a few prunes, peaches, or grapes. The foods allowed at first should be guardedly chosen and taken in a cautious manner. Little by little the diet should be extended until ordinary diet can be taken with comfort. If at any time the patient shows signs of not digesting his foods, he should be brought back at once to the rigid animal diet, and held there until the organs again do perfect work. If the patient is thus promptly and strictly returned to a restricted animal diet, he will be all right in a few days. On the contrary, if he is not so treated, the former manifestations of disease will occur. It is impossible for a person ever to get so well but that, if he becomes sick again, it will be the weak organs that are assailed. Like causes will certainly produce like effects. It is to be borne in mind that the mucous membrane, while it may be sound, is still delicate and sensitive, and must be restored and strengthened up to its natural state. And if you consider particularly the changes that have taken place in advanced cases, not only in the mucous membrane but in the connective tissue, glands, and sympathetic nerves, it stands to reason that a good condition must be kept up long after the evidences of the disease have disappeared. And I might add in this connection that, in my experience, it takes from one to three years to bring about such changes and to cure a catarrh of the stomach and bowels.

In catarrhal disease of the bowels much the same line of treatment is to be followed. The use of hot water and the rigid animal diet must be persevered in until all traces of the disease have disappeared from the blood, the urine, and the fæces. After this system of alimentation has been persevered in thus long, there may be a very gradual return to the vegetable and starchy regimen already defined. At times there may be slight relapses, but these will be readily corrected by a return to a rigid use of the hot water and animal diet for a few days. But, despite drawbacks, there will be a prompt restoration of comfort and a gradual progress toward health until recovery is complete.

The extent to which I have gone into the general principles of treatment and diet may lead to the belief that I am indifferent to the place and power of medicines in dealing with the functional and catarrhal diseases of the stomach and bowels. Such, however, is not the case, for there are medicines of very great utility and upon which I have come to rely with confidence. In my judgment, there are four leading indications for the use of medicines in these cases. There is a need for those that supplement the gastric juice, that stimulate the appetite, that invigorate the nervous system, that excite or retard the secretions, and that bear upon complications which may arise.

1. Among those of the first class is to be named pepsin, which is especially useful in aiding the digestion of animal food. To this useful agent may be added either bismuth, ginger, or ipecac, as needed.

2. Of the medicines calculated to stimulate the appetite I have found benefit to result from the preparations of cinchona, gentian, fluid extract of stillingia, and Fothergill's anti-dyspeptic pills.

3. In cases that need a decided nerve tonic to invigorate a feeble nervous system, and especially the nerves supplying the organs of digestion, there is nothing more advantageous than the preparations of strychnine and damiana.

4. For remedies to regulate the secretions I have obtained good results from the guarded use of Carlsbad salts, compound licorice-powder, fluid extract of cascara, mild laxative pills, and hydrastin. On the contrary, when secretions become too free, I often prescribe mild tonic astringents, like the fluid extract of blackberry-root, fluid extract of hamamelis, bismuth, or chalk mixture. In catarrh of the stomach, duodenum, or bowels, a combination of hydrastin and bismuth has rendered most excellent service. Hydrastin and bismuth seem to exert a peculiar and salutary effect upon mucous surfaces. In those cases where there is a marked tendency to acidity and fermentation, salicin alone, or with bicarbonate of sodium, or charcoal and magnesia, have given good and prompt results. Salicin usually affords excellent results, because it does not disturb the stomach, is tonic in its action, and is one of the best agents we have to counteract acidity and the evils of fermentation. There are, of course, many other remedies to be used in the treatment of the diseases under consideration, but these are the principal ones which, if properly prescribed, are of great service.

In conclusion, there are two features in the clinical history of cases treated after the manner here outlined that are worthy of special note. In the first place, there is a natural tendency for the patient to gradually get weaker and thinner. The deprivation of starch, sugar, and fat cuts off, so to speak, the "kindling wood" of the system that affords immediate strength and heat. Not only that, but excessive fermentation, especially alcoholic, is to some extent a stimulant, and it is the loss of its chronic effects that is felt by the system. No injurious consequences follow this weakness, however, if the patient believes what has been told him and does as advised. After a time the blood becomes richer, the nervous system stronger, and renewed strength takes the place of former debility. If necessary, as a matter of bridging over temporary weakness, the patient can be given from a teaspoonful to a tablespoonful of old whisky or brandy, in water, from one to two hours after meals.

And, secondly, in catarrhal cases of the bowels where the movements occur several times daily, it is sometimes necessary to bring them under control with simple remedies, like external heat, rest in bed, and the internal use of mild doses of bismuth, chalk mixture, or fluid extract of ginger. These rather frequent movements, while they sometimes weaken, are, after all, salutary. They are, as it were, Nature's "house cleaning," removing the products of fermentation, exfoliations of mucus, and other morbid material. Before or during these frequent movements or clearings the patient may experience local or general muscular or neuralgic pains, but all of these temporary disturbances soon pass away.

Such, then, are the methods which, in my judgment, are the best of all for removing the causes of functional and catarrhal diseases of the stomach and bowels, restoring the quantity and quality of the blood, augmenting the force of the nervous system, and putting the general health on a solid basis.

As you have already heard, they consist—

1. In securing a willing, obedient, hopeful, and confident mental condition.

2. In making a careful diagnosis, based on the usual methods, and, in addition, a frequent microscopical and chemical study of the products of the system, as the blood, the urine, and the fæcal discharges.

3. In placing the patient under the most favoring hygienic conditions.

4. In an intelligent and systematic use of hot water, for the purpose of cleansing the surfaces of the stomach and bowels, stimulating the secretory and excretory functions of the liver, kidneys, and other glands, and supplying the system with the requisite amount of liquid.

5. In using an article of diet that undergoes but slight if any fermentation, that can be easily digested, absorbed, and assimilated, and that will make, in time, the maximum amount of blood and nerve force. The great object is not to arbitrarily put the patient on a particular article of diet, but rather on one that will meet the above-named requirements and tide him over until well enough to resume the use of various articles. For this purpose I have not found any food comparable to the muscle-pulp of beef, prepared and used as before described. To afford the greatest service, it must be carefully prepared, properly eaten, and thoroughly digested. To know whether it is well digested, reliance must be placed on the usual signs and symptoms, and on a frequent microscopical and chemical study of the blood, the urine, and the fæces. The latter method affords the most accurate means of determining what manner of work is being done in the laboratory of the system.

6. In the use of medicines in so far as they improve

the appetite, excite or retard secretions, restore the blood and nervous system, and meet varying conditions and complications, if any develop.

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## Correspondence.

### LETTER FROM LONDON.

*Renal Surgery.—Colectomy versus Colotomy.—The Suspension Treatment of Locomotor Ataxy.*

London, *March 2, 1889.*

Mr. Godlee has recently recorded a rather brilliant success in renal surgery. His patient, a lady aged twenty-six, had suffered from rheumatic fever four years before coming under observation, and had had repeated attacks of renal colic on both sides with hæmaturia. On July 31, 1888, she had an attack of right renal colic which passed off. It was followed the same day by left renal colic, which did not pass off, and when seen on August 8th she had had complete suppression of urine for fifty-three hours. The left kidney was exposed in the usual manner, and incised; very little urine escaped, and no stone was found, but, on passing the finger down the course of the ureter, a small stone was felt about two inches below the kidney; the ureter was drawn toward the wound and opened by a vertical incision, through which the stone was removed; a drainage-tube was left in the kidney. The bladder and lower ends of the ureters had been previously explored by dilating the urethra and introducing the finger. There was immediate relief from the symptoms; large quantities of urine were passed by the wound, but none *per urethram* for three days. Five days later there was an attack of right renal colic, and another ten days after that. The tube and stitches were removed a week after the operation, and in three weeks the wound had healed. On September 3d the right kidney was exposed and incised, but only a mass of gravel was found. There was no stone in the kidney or ureter, at any rate as far down as the point where the latter crosses the iliac vessels; blood appeared in the urine immediately after the operation, and some gravel. On the eleventh day the tube was removed, the patency of the ureter having been first ascertained by injecting some inky fluid into it, which speedily was passed by the urethra. On the following day a small stone was passed; between this time and the end of October the patient had three attacks of pain in the right side, but her ultimate recovery was complete.

At the last meeting of the Royal Medical and Chirurgical Society, Mr. Kendal Franks, of Dublin, occupied the evening with a paper on "Colectomy for Malignant Disease." His paper was based on two cases of his own, and an analysis of fifty-one recorded cases. His first patient died on the sixth day; but the second, who was operated upon in the middle of last October, was living and in good health at the time the paper was read. His statistics showed that the operation had proved fatal in 40·8 per cent. His conclusions were: 1. Colectomy rarely effects a cure. 2. As a palliative measure it is justifiable and frequently demanded. 3. Recurrence usually takes place in the liver or mesenteric glands, and death then is much easier than when the intestine is occluded. 4. The mortality after immediate suture of the intestine and after the formation of an artificial anus is nearly equal. 5. Immediate suture of the divided ends is preferable to the formation of an artificial anus. 6. The death-rate has been reduced in the later cases and a further reduction may be anticipated. Mr. Treves held that Mr. Franks's paper and statistics practically signed the death-warrant of colectomy. These operations concerned cases of cancer of insidious growth, which by the time they attracted the attention of the surgeon would already be of good size. When the disease attacked the ascending or descending colon, it must often be mechanically impossible to get it away. In many of the cases the surgeon had performed an operation in defiance of the most ordinary rules of surgery. If it was only a palliative operation, then it compared badly with colotomy, which certainly gave better statistics. Mr. Pitts thought that the chief difficulty was to get a case early enough; an early diagnosis was, however, a matter of great difficulty. Colectomy alone, in his judgment, was not a very dangerous operation, but if union of the large bowel was attempted, then it became a dangerous operation; but merely to cut out the disease and leave an artificial anus was not a very severe measure. A point in favor of colectomy was that columnar epithelioma of the bowel was slow to infect the surrounding structures or the glands. It remained for months apparently a local affection.

The only novelty in the department of medicine, so far as I know, is Charcot's suspension treatment of locomotor ataxy. It is well recognized how intractable a malady this is as a rule, and consequently every one is ready to jump at a new treatment, even though perhaps not very much for it can be maintained as yet. The patient is suspended much after the fashion of Sayre's treatment of spinal caries. The suspension at first should only be for half a minute or so, and after a while the time can gradually be prolonged, until the maximum of four minutes is attained. It is said that no discomfort is experienced by the patient during the suspension, and that as an immediate result he is enabled to walk more steadily. From the cases recorded by Charcot in his lecture, and published in one of the early numbers of the "Progrès médical" this year, there can be no doubt that some amelioration, perceptible both to the patient and to his doctor, does take place at once, but as yet no improvement has taken place in reference to the knee-jerk or the condition of the pupils. I think that the new treatment is interesting in that it confirms the idea of a vascular origin of the disease, inasmuch as it would seem probable that the effect of the suspension would be exercised mainly through the vascular system.

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**Massage in Pelvic Inflammation.**—"Dr. Semianikoff has employed massage in twenty cases of pelvic inflammation of a chronic character which had resisted other forms of treatment, and speaks very highly of the results obtained. All the cases were in Professor Slavianski's gynæcological clinic in St. Petersburg. The cases in which the most marked effects were produced were those where there were peri-uterine effusions of moderate dimensions. Chronic ovaritis, too, yielded to the same treatment. It should be stated that in some of the cases daily sittings for about three months were required to effect a cure. Of course the treatment was intermitted during the menstrual periods."—*Lancet.*

**Round Ulcer of the Stomach.**—"Dr. Cherbakoff, of Moscow, in order to study the conditions under which gastric ulcers occur, injected a solution of chromate of lead into the gastric arteries of dogs, with the result that ulcers were produced which bore a considerable resemblance to ordinary round gastric ulcers in the human subject. These experimental ulcers, however, evinced a great tendency to heal rapidly and completely. This tendency could be combated by increasing the acidity of the gastric juice. Indeed, by this means it was found possible to cause the ulcers to become deeper and deeper until they perforated all the coats of the organ. Clinically speaking, these results would appear to be not devoid of significance, as it is well known that round ulcer of the stomach is frequently associated with hyperacidity of the gastric juice."—*Lancet.*

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## MENTAL DEPRESSION AND URIC-ACID EXCRETION.

Mental depression is a functional disorder, slight or profound, and of variable duration. Melancholia, according to Broadbent, is in many cases an aggravation of mental depression, and often both may be due to the same cause. When depression or melancholia is chronic and continuous, the conditions about to be considered will scarcely avail to explain its cause. Yet depression of purely functional origin, when complicated by organic changes, such as vascular degeneration or failure of cardiac power, may be more or less continuous and severe.

In the "Practitioner" for November, 1888, Dr. A. Haig considers the relation of mental depression to the excretion of uric acid. A certain form of headache bears a close relation to such excretion; and the author's researches concerning headache have shown him that mental depression and its opposite condition of well-being and exaltation are also dependent upon the amount of uric acid in the blood. Variation of this amount may produce or put an end to the headache; and, in like manner, mental depression or the joy of living may be called into existence. The amount of this acid required to produce headache is probably greater than that which causes depression, irritability, or simply that undesirable state known as being on bad terms with one's self. It has been noticed that a number of persons suffer from a certain amount of mental depression and heaviness at the time of day when the excretion of uric acid is at its greatest—that is, in the morning between breakfast and lunch—when the acidity of the urine is lowest. This Sir W. Roberts calls the "alkaline tide." In the afternoon there is often a second period of falling acidity. It corresponds in every way to the condition that may be produced artificially by giving alkalies. An artificial alkaline tide is brought about, washing uric acid in excess into the blood, and so inducing the depression. The process may be reversed at any time; and, by giving acids sufficient to overcome the alkaline tide, heaviness and low spirits may be made to give way to a feeling of well-being, mental clearness, and enjoyment of life.

The treatment of mental depression due to a temporary excess of uric acid in the blood resolves itself into the prevention of such excess by drugs or diet. One or two small doses of a dilute mineral acid (say fifteen drops) will have a marked effect in the removal of this kind of mental condition and in producing its opposite state. Where there is gastro-intestinal disturbance, even to a slight degree, drugs given for the relief of uric-acid headache or depression may remain for hours in the stomach unabsorbed, thus failing to bring about the more or less immediate results that may be expected. On some other occasion and in the same individual the dose may act fairly well. Supposing, however, all difficulties are surmounted and the condition is greatly relieved by acids; it only remains to alter the diet in such a way that an excess of uric acid in the blood shall afterward be impossible. This excess in the blood probably comes from the accumulation of uric acid in the liver, spleen, joints, and other tissues, such accumulations being for the most part the result of the action of acids taken in the food or drink. They may be formed internally, as in dyspepsia, or retained on account of defective action of the skin.

Foods may increase acidity of the blood and tissue fluids by the salts they contain, such as phosphates, sulphates, etc., or by their originating acid-fermentation processes and dyspepsia. Meat is an example of the first class, and sugar and sometimes fruit in certain individuals are examples of the second class. Beers and wines are for the most part highly acid, and thus directly introduce acids into the system. They may possibly originate fermentation processes as well. Alcohol and stimulants in general appear to induce acidity, possibly by stimulating nitrogenous metabolism. An excess of meat is to be avoided, as meat stimulates nitrogenous metabolism, and increases the formation of uric acid and urea, its salts and the increased metabolism causing acidity as well as retention of part of the uric acid formed. Sometimes any meat at all is an excess. Beers and wines also induce acidity, stimulate metabolism, and cause decided retention of uric acid. Alcohol, apart from acids mixed with it in beer and wine, may possibly cause acidity by increased metabolism and bodily activity. A full diet, in which meat twice a day with beer and wine in some quantity is a marked feature, must be modified at once. Meat must be replaced by milk and fish, wine and beer by a little whisky or gin and water. An occasional bit of fowl or game may be allowed, and now and then an egg. This diet, continued for months, may bring about such good results that nothing more will be needed. Often, however, greater modifications are necessary, and fowl, eggs, game, and all the alcohol must be abandoned, with indulgence in fish limited to twice a week, or less, or none. Such a diet—reduced to milk, fruit, vegetables, butter, and fat—may be continued for years or for life without permanent loss of weight, bodily or mental power, or any sign of deterioration appreciable by medical examination. The rewards of this self-denial in the matter of diet are a comparatively placid and equable mental condition and a complete absence of the intense depression and irritability caused by uric acid. With such a diet not only is the formation of urea and uric acid small, but the uric acid is all passed out of the body at once along with the urea that corresponds to it, for there is no high acidity to cause its retention in the liver, the spleen, the joints, and other tissues. With such a diet, nitrogenous metabolism does not go beyond what is required for the maintenance of healthy structure. The large amount of alkali in the fruit and vegetables which form so large a part of the daily food prevents any high degree of acidity. Thus the prevention of mental depression due to excess of uric acid is complete.

Patients must not be allowed to become discouraged if at first the change in diet seems to make them worse and the depression more constant; for, as the acidity falls owing to a change in food and to the increased ingestion of alkali, the uric acid stored in the liver, spleen, and other tissues will be washed out into the blood, and during the washing-out process there will no doubt be depression. This depression may be mistaken for increased weakness, but perseverance beyond the washing-out stage always results in recovery. Great care and attention to details constitute an essential feature in the plan of diet here indicated. Without it success is not possible. Persons assert that they can not live without meat. In a certain sense this is true, because the prevalent idea of living without meat is to leave it off and put nothing, or else a totally insufficient quantity of milk, in its place. A loss of weight and strength is the natural consequence. It requires constant supervision to prevent such a catastrophe. It is a good plan to weigh the patient before making the change in diet, and then the patient and his friends can not frighten each other about an imaginary loss in weight. The washing out of uric-acid accumulations may be accomplished more quickly and with less depression if some salicylate of sodium (fifteen grains, three or four times a day) is given at the beginning of the diet treatment; in some cases a single daily dose of fifteen or twenty grains is sufficient.

The following is a sketch of a fruit, milk, and vegetable diet that would seem admirably adapted to meet the requirements of the lithæmic constitution. With certain modifications in individual cases, such a plan of daily food might avert attacks of migraine, certain epilepsies, periodic attacks of simple physical prostration, gouty headache, and some forms of iritis and other inflammations or irritations that are dependent upon an excess of uric acid in the blood:

*Breakfast.*—Bread and butter, toast and butter (total of butter, four ounces), and jam. Porridge and a pint of milk, and occasionally fruit.

*Lunch.*—Potatoes and butter, bread and butter (total of butter, an ounce and a half), jam, fruit, and from eight to ten ounces of milk.

*Afternoon Tea.*—Tea with much milk, bread with much butter, and plain cake (if the cake does not contain eggs, the quantity does not much matter).

*Dinner.*—Soup without any stock (haricot beans with an abundance of milk and a good bit of butter make a soup that few would believe devoid of stock; and the same can be done with peas, potatoes, lentils, and other vegetables). Potatoes fried or otherwise prepared, and at least one other vegetable, with butter and milk, form the next course. Then pudding, pastry, or stewed fruit, followed by bread and butter or biscuit and butter. And last, but not least, dessert of several kinds of fresh and dried fruit eaten in considerable quantity. Milk, to the extent of ten ounces, is taken with the dinner; and any other liquid must be plain water or some simple aerated water, such as Salutaris. Milk, which is disliked by many persons, may be made more palatable by the addition of salt, as has been suggested by Dr. Emmet. Taken in large quantities, it has a tendency to cause constipation. If this can not be overcome by exercise, the amount of milk taken should be reduced.

The increased expenditure for fruit and vegetables about balances the saving in the meat and fish that they replace. In other words, health and good spirits, milk and fruit, may be had for the same sum of money as meat and fish with mental depression and bad temper. The exchange seems fair. Nothing stands in the way but habits, fears, prejudices, and preconceived ideas. These once overcome, all is plain sailing.

## *MINOR PARAGRAPHS.*

### THE BEE'S VENOM AS A REMEDY FOR RHEUMATISM.

The "Union médicale" publishes an abstract of an article in the "Wiener medicinische Presse" in which Dr. Terc describes a singular method of conferring immunity against rheumatism, namely, by saturating the system with the venom of the bee. The author had noticed that, when bees stung a rheumatic person, the little swelling produced by the sting in most persons was slow in appearing, and, if the stinging process was continued, finally failed to appear at all; then the person was free from rheumatism and reasonably safe against relapses. Dr. Terc is said to have carried out the process in 173 cases, in which 39,000 stings were required. He reports success in acute cases, but especially in chronic cases that had been given over as hopeless.

### PLEGAPHONY; A NEW DIAGNOSTIC SIGN.

Dr. E. Sehrwald, a tutor in the University of Jena, describes, in the "Münchener medicinische Wochenschrift," a method of auscultatory percussion of which he considers it useful to avail one's self when bronchophony, ordinarily relied upon, is absent or feeble. According to an abstract given in the "Deutsche Medizinal-Zeitung," the method consists in percussing the larynx while the ear is applied to the chest. A plessimeter is laid upon the side of the thyreoid cartilage, with its front edge coinciding with the crest of the larynx, and gentle percussion is made with the finger or with a hammer. This may be done by the patient or by an assistant, while auscultation is performed by the physician. If the ear is applied over infiltrated pulmonary tissue, the percussion sound, transmitted through the air in the bronchi, is that of a loud, clear, quick stroke, tympanitic in character. It is called plegaphony (in German, *Plegaphonie*), from πληγή, a blow, and φωνή, sound. Manifestly the term might as well be given to the sound heard in any other form of auscultatory percussion, but we doubt if anybody will find fault with its application to the sound under consideration. Where there is extensive atelectasis, the sound is heard if the patient simply opens or shuts his mouth; it is weakened over exudates, but rendered louder and more decidedly tympanitic over large cavities than over infiltrated tissue; in pneumothorax there is a metallic by-clang; it is always most intense on the side opposite the half of the larynx percussed; over healthy pulmonary tissue there is only a soft, low, but distinctly clinking, sound.

### THE IMMUNITY OF LIME-BURNERS AGAINST CONSUMPTION.

In the "Berliner klinische Wochenschrift" Herr Halter treats of the freedom from pulmonary consumption enjoyed by workers in lime-kilns. According to a summary published in the "Centralblatt für klinische Medicin," the author observed that the workmen in the Lengerich kilns, where the ground is very dry, the temperature from 105° to 158° F., and the air always freely charged with lime-dust, were proof against phthisis. He considers the high temperature of more importance than the dryness or the inhalation of lime-dust in bringing about this immunity. For the prevention and cure of pulmonary consumption, he recommends the use of the Irish-Roman bath once or twice a day, for from fifteen to thirty minutes at a time, also, several times daily, inhalations of dry air heated to between 248° and 374° F. Feverish patients and those with hæmoptysis, however, should avoid the hot-air baths. The treatment is supposed to act by checking the growth of the bacilli.

### THE BITE OF THE SCORPION.

Ordinarily the bite of the European scorpion is not followed by serious results, but occasionally the contrary is the case, phlegmonous inflammation and gangrene taking place in particular. According to tradition, the scorpion is especially venomous in the month of July; this seems to be borne out by experiments undertaken by Signor G. Sanarelli, who found that the venom taken from a scorpion in July killed a frog in two hours, while that taken in April hardly produced the same result in twenty-four hours. In 1871 M. Jousset experimented with the venom of the *Scorpio occitanus*, and the conclusions at which he arrived, as set forth in the "Comptes rendus de l'académie des sciences," were that the poison acted directly upon the red blood-corpuscles, and apparently upon them only; that it broke up the proper substance of the corpuscles, the fragments of which united to form little masses; and that these masses acted as emboli to impede the circulation. Signor Sanarelli's account of his experiments has been published in the "Bollettino della sezione dei cultori delle scienze mediche," and an abstract of it is given in the "Centralblatt für klinische Medicin" for March 2d. Being unable to obtain a sufficient number of specimens of *Scorpio occitanus*, he made use of the *Scorpio europæus*. His results were substantially the same as Jousset's.

### MILKERS' CRAMP.

At a recent meeting of the Berlin *Verein für innere Medicin*, a report of the proceedings of which is given in the "Deutsche Medizinal-Zeitung" for February 14th, Herr Remak showed a milkmaid, twenty years old, who was the subject of this affection. The speaker remarked that milkers' cramp had first been described by Basedow, in 1851, who showed it to be a tonic spasm of the muscles of the forearm, brought on by any attempt to milk cows, but not by labor in the field, and classed it as a so-called functional cramp, or co-ordinatory professional neurosis, like its prototype, writers' cramp. In Herr Remak's case the cramp was ascribed to a degenerative inflammation of the median nerve.

### ETHICS AMONG THE DENTISTS.

At a meeting of the New York Odontological Society, held on Tuesday evening, Professor Horatio C. Meriam, of Harvard University, read a paper on "Professional Atmosphere and Morals." The meeting was looked forward to as an important one, chiefly because it was expected that there would be a discussion turning largely upon the servitude of dentists to holders of patent rights; and that proved to be the case. It was maintained that members of the dental profession should not themselves obtain patents for appliances to be used in the practice of their art; that when they did so they contributed to lower the status proper to the profession, besides throwing a burden upon their professional brethren. There is an evident purpose on the part of American dentists to cultivate ethics in its application to their work, and to assimilate themselves more closely to the medical profession in that respect. The motives by which they are actuated are entirely praiseworthy, and it is to be expected that they will add still greater luster to the fame of American dentistry.

### CYSTITIS IN WOMEN.

Dr. Thomas More Madden, of Dublin, contributes to the "British Medical Journal" an article in which he insists upon the greater frequency and more serious consequences of inflammation of the bladder in women than in men, and then considers its palliative and curative treatment in the former. Where it is possible to get rid of the cause, that, of course, is the thing to be done; but, given a case of cystitis in which this is impracticable, none of the measures before proposed have been really curative, except Dr. Emmet's button-hole operation. To this Dr. Madden has found these objections: The general difficulty of keeping the fistulous opening patulous long enough to allow the bladder to regain its normal condition; the irritation occasioned by the button; and the occasional difficulty of closing the fistula when its persistence is no longer necessary. He has therefore abandoned the use of Emmet's operation, and now resorts to digital dilatation of the urethra and the neck of the bladder, occasionally associated with the cautious use of a dull curette upon the proliferating mucous membrane of the bladder, and in all cases with the application of carbolic acid (the glycerine of carbolic acid of the British Pharmacopœia) to the same membrane. This treatment, he says, seldom has to be repeated more than two or three times, at intervals of a week, to effect a cure, even in the most aggravated cases.

### THE PHARMACOPŒIA OF 1890.

Whoever has examined the present United States Pharmacopœia, and compared it with the preceding decennial issues of the work, must have realized the unusual amount and the careful character of the labor expended upon it by the committee of revision. This fact alone should have entitled the committee to the gratitude of two professions, but it is worthy of additional praise for having taken great pains to facilitate the work of its successors of 1890. This the committee has done by collecting from various sources precisely the data and queries that will have to be considered by the next committee. These are published in the form of a brochure of nearly two hundred pages, entitled "Digest of Criticisms on the United States Pharmacopœia, Sixth Decennial Revision (1880)." We have examined this publication with some care, and we find the suggestions contained in it to be such as ought to commend themselves to the new committee. We infer that it is to the industry and public spirit of the old committee's chairman, Dr. Charles Rice, that the professions of medicine and of pharmacy are indebted for this timely work.

### SOME NEW APPLICATIONS OF LARYNGEAL INTUBATION.

In the "British Medical Journal" for March 2d a well-known Edinburgh surgeon, Mr. Thomas Annandale, describes certain uses to which he has put Dr. O'Dwyer's operation of intubation of the larynx—namely, as an aid in certain operations, as a means of restoring or carrying on respiration in cases of sudden obstruction in the larynx or trachea, and for laryngeal stenosis resulting from chronic inflammatory conditions or from accidental or surgical wounds. By the simple expedient of surmounting the O'Dwyer tube with a channeled hard-rubber gag to which a soft-rubber tube is attached to be brought out through the mouth, Mr. Annandale has done away with the necessity of tracheotomy as a preliminary to operations involving danger of the trickling of blood down into the trachea; but he gives to Dr. Macewen, of Glasgow, the credit of priority in this use of intubation, that gentleman having resorted to it so long ago as in 1878. Besides describing these special applications of O'Dwyer's operation, Mr. Annandale gives an exceedingly fair comparison of its value in general, and it is gratifying to see that he attributes to Dr. O'Dwyer's labors the entire merit of having successfully established the operation.

## ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 19, 1889:

| DISEASES. | Week ending Mar. 12. | | Week ending Mar. 19. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 9 | 2 | 9 | 3 |
| Scarlet fever | 341 | 49 | 387 | 46 |
| Cerebro-spinal meningitis | 3 | 1 | 1 | 0 |
| Measles | 236 | 20 | 189 | 20 |
| Diphtheria | 203 | 45 | 200 | 46 |

**The Philadelphia Polyclinic.**—The Appropriations Committee of the Pennsylvania Legislature has recommended a grant of $20,000 to the institution for its new hospital building, provided it raises a like amount. Toward meeting this provision, subscriptions amounting to about $10,000 have already been secured.

**The Howard University.**—The commencement exercises of the medical, dental, and pharmaceutical departments were held in Washington, on Saturday, March 16th. The degree in medicine was conferred on twenty-four, in dentistry on six, and in pharmacy on four candidates.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 10 to March 16, 1889:*

BAXTER, JEDEDIAH H., Colonel and Chief Medical Purveyor, will, by direction of the Secretary of War, proceed to New York city on public business connected with the Medical Department, and on completion thereof return to his station in this city. Par. 18, S. O. 57, A. G. O., Washington, March 11, 1889.

GREENLEAF, CHARLES R., Major and Surgeon, is appointed a member of the board to meet in this city, on March 11, 1889, for the purpose of revising the blank forms now in use in the army, and preparing the "Book of Forms" for issue. Par. 13, S. O. 55, A. G. O., Washington, March 8, 1889.

JOHNSON, RICHARD W., Captain and Assistant Surgeon, is relieved from duty at San Carlos, Arizona, by direction of the Secretary of War, and will report in person to the commanding officer, Whipple Barracks, Arizona, for duty at that station. Par. 15, S. O. 57, A. G. O., Washington, March 11, 1889.

SHUFELDT, ROBERT W., Captain and Assistant Surgeon, having been found incapacitated for active service by an army retiring board, is, by direction of the Secretary of War, granted leave of absence until further orders on account of disability. Par. 7, S. O. 56, A. G. O., Washington, March 9, 1889.

**Society Meetings for the Coming Week:**

MONDAY, *March 25th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

TUESDAY, *March 26th:* New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Medical Society of the County of Lewis, N. Y.; Boston Society of Medical Sciences (private).

WEDNESDAY, *March 27th:* New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield); Philadelphia County Medical Society.

THURSDAY, *March 28th:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Roxbury, Mass., Society for Medical Improvement (private); Cumberland, Me., County Medical Society (Portland).

## Letters to the Editor.

### MEDICAL EDUCATION.

1032 LEXINGTON AVENUE, *March 15, 1889.*

*To the Editor of the New York Medical Journal:*

SIR: In a recent issue of the Journal an article appeared upon "Medical Education," written by Dr. Roosevelt. Ever since I read Herbert Spencer's "Essay upon Education," several years ago, my thoughts have constantly reverted to its application to medical education, and the publication of Dr. Roosevelt's paper may render an expression of my views not inappropriate. Mr. Spencer's essay has been received as an authority by advanced thinkers upon the subject; but it would appear either that Mr. Spencer is mistaken in his premises and conclusions, or that the present system of medical education is fundamentally faulty. Mr. Spencer's general application is that, in any system of education, the completed work should be shown to the student. This impels a desire in his mind to know the causes of the result, and to stimulate and then satisfy this desire is the office of the teacher. Applied to medicine, would this not mean a reversal of the present order of instruction? Suppose clinical instruction to come first, would not anatomy, physiology, and materia medica have a real meaning instead of being a matter of dry detail? For instance, suppose a student were asked to listen to the heart-sounds, and told to note their rhythm and quality. He would naturally ask the cause. When he heard of the valves he would desire to know their construction and action. If the objection should be made to this that we have here only physiology after all, take a surgical operation as an example. Suppose a student were to see the femoral artery ligated, his natural inquiry would be as to arteries in general and the femoral artery in particular. Next would be a desire to know the anatomy of Scarpa's triangle. A man with an extremely inquiring mind might even wish to know who Scarpa was. In conclusion, let me give a striking example of this method. There are two systems of test-glasses in vogue—those of the inch and those of the diopter. A student of ophthalmology could master the details of these systems and convert one into the other from a description about as easily as he could decipher the inscriptions upon Cleopatra's Needles. Nevertheless, it is not a hard matter, and is readily understood by any one who has practically applied the two systems in testing refraction.

By putting practice first and theory afterward, the time consumed in teaching medical subjects would be no greater, that in learning them probably less. The increased satisfaction to the student can only be surmised. H. H. SEABROOK.

## THE ANTISEPTIC TREATMENT OF MAMMARY ABSCESSES.

133 West Thirty-fourth Street, *March 11, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: The paper of Dr. J. P. Marsh, entitled "Care of the Female Breast during Lactation," published in the Journal of March 9th, was a very satisfactory one in all respects save on the subject of the treatment of mammary abscess after the pus has been evacuated. The author says: "Perhaps antiseptics had better be excluded from the treatment of these abscess cavities, and, where irrigation is required, simple boiled water be used." Every surgeon who is familiar with modern ideas felt his bristles rise when he read that expression of sentiment. It is true that our best antiseptics—bichloride of mercury and carbolic acid—might be dangerous when used for irrigating a large abscess cavity; but if we substitute for them peroxide of hydrogen and balsam of Peru, the abscess cavity will with graceful submission fill quickly with healthy granulations, and the dangers of wound infection and the discomfort of long-continued suppuration will be done away with.

If Dr. Marsh, after making a very free opening into an abscess cavity of large size, will inject once daily thereafter a few drachms of a twelve- or fifteen-volume preparation of peroxide of hydrogen, and follow this injection with the introduction of a small quantity of balsam of Peru, he will be very much pleased with the results. The peroxide is injected most easily by means of a hard-rubber syringe and a small soft catheter, the latter being inserted into the deepest cavities and the injection then made through it. After waiting a few minutes the masses of foam and the *débris* which are thrown out are brushed away and another injection made. This is repeated until the peroxide which is injected ceases to foam. The abscess cavity is then known to be chemically clean. Fluid remaining in the cavity is gently expressed and balsam of Peru made to take its place. A very large drainage-tube—or, what is better, a strip of gauze soaked in the balsam—should be introduced and the whole breast enveloped in a large handful of bichloride gauze or cotton.

Robert T. Morris.

# Proceedings of Societies.

## NEW YORK ACADEMY OF MEDICINE.

*Meeting of February 7, 1889.*

The President, Dr. A. L. Loomis, in the Chair.

**Address of the Retiring President.**—Dr. A. Jacobi, in resigning the chair to Dr. Loomis, read a carefully prepared paper, in which he reviewed the labors of the Academy in the past, and called attention to some things in which he hoped improvement would be made in the future. The prosperity of the Academy in membership, finances, buildings, and equipment, and in having an abundance of interesting papers read before its meetings, was a matter for general satisfaction. That so active a part in the proceedings was taken by the younger men he regarded as a fulfillment of one of the purposes of such an association—namely, "to foster the growth of young cells" in the "tissues" of the profession. The function of physicians in the body-politic should be that of the trusted advisers of the public on all matters in which life and health were at stake. Only when the profession as a body came to represent the widest and most accurate thinking of all times in matters relating to the physical welfare of the individual and the community would they take their proper place in regulating the public policy in matters connected with the prevention as well as the cure of diseases; bills presented to the Legislature, prepared and indorsed by leading medical organizations, would be passed without revision by men untrained in the science of medicine; and even on the managing boards of our hospitals it might come to be thought prudent to have one member a doctor.

He called attention to the meetings of the Section in Hygiene and Public Health as being most important as regarded the possible service they might render to the public. The attendance on these meetings by so many representative men in the educated class belonging to other professions was no reason why so few doctors should be present to take active part in the discussions. The Section in Materia Medica and Therapeutics had not been productive of valuable work. He sometimes wished it were called the Section in Therapeutics including Materia Medica, and that it might deal with a wider range of subjects than experimental studies of the effects of new drugs on animals. He would propose as the field of investigation proper to this section the discovery and application of all laws and means by which recovery from disease could be promoted. A knowledge of these was the first and last accomplishment of the physician—one to which all his other knowledge was subsidiary, or should be. The speaker then passed in review the recent advances in our knowledge in this great department of work. He endeavored to show the subtlety of the practical problems which had to be dealt with, and the innumerable variations which perverted body-action as affected by drug-action presented. It was scarcely to be wondered at that so much scorn was put upon internal medicine by the skeptically minded in the laity, who comprehended neither the uses of drugs nor yet their limitations, especially when acting on a body past the middle period of its life. Remembering the great complexity of the subject, it was easier to understand how so many graduates from poor colleges were able to sell their ignorant services to country communities, and how proprietary medicines could have such sales, and why, in some classes of the community, doctors were changed so often. A surgeon could become great at thirty years of age if he had the temperament, and due energy in applying certain well-established principles. On the contrary, only many years of labor could give trained senses and ripened experience sufficient to entitle a physician in general practice to be called great, whatever his inherent ability might be.

**Inaugural Address.**—The President, upon taking the chair, read an address in which he considered particularly the needs of scientific medicine in New York. He concluded that, in the first place, a higher and broader culture was needed in those entering upon the scientific pursuit of medicine. An examination in mathematics and classics was no test of this. Medicine was no longer based on authority and tradition. A special training in the natural sciences should be made the prerequisite. In Europe, where higher standards prevailed, no uneducated man thought of studying medicine. In this country the profession was largely responsible for the large numbers of weak men in their ranks by encouragement given to men to enter the study of medicine who were neither fitted nor personally qualified. After reviewing the defects of medical colleges and outlining improvements to be desired in the present modes of instruction, the speaker considered the need of having laboratories fitted out and endowed in this city where the scholarly men constantly coming here could work unhampered by expense. Men of wealth desiring to do real good with it should turn their attention less to the alleviation of the bodily discomforts of the ignorant and more to the promotion of intelligence as being more important to the general welfare. The endowment of hospitals and dispensaries had been so overdone in some instances that there was actually a premium put on patients to fill the wards. This was misdirected charity. Already there were indications that the stream of emotional benefaction was turning into educational lines. There was a need for the establishment of scholarships, fellowships, and independent lectureships to enable scholars of limited means to engage in scientific work. History showed that power and wealth had never achieved greater glory than in fostering the useful sciences.

The speaker proceeded to criticise the standard of our medical literature. A leading fault was in the "vain repetitions such as the heathen use," printed and reprinted in hastily written articles, of facts already too familiar. Too many men were writing for the fame supposed to be obtained by an appearance in print. Other causes of the present redundancy of medical literature were discussed, and the need was shown for men devoted each to the discovery and application of single truths. The tasks which science set were usually without pay or thanks, and yet were necessary to the influence and dignity of the profession.

Dr. FORDYCE BARKER, being called on by the president, said that he could hardly give expression to the pleasure that he had in being present, as the contrast which forced upon his mind between the present condition of the Academy and that of ten years before, when he had had the honor of giving his inaugural address, illustrated the prosperity, the rapid growth, and the increasing usefulness of the Academy. It might perhaps be interesting and profitable to briefly refer to the many important changes which had taken place in that period. Then its hall was only the room adjoining, which now served for a committee room and for the overflow of the general meetings. This hall, which had been built since that time, was already so crowded with books that a new one was absolutely necessary, and he was sure would be built in the near future. The number of volumes in the library had nearly quadrupled in the past ten years. On that evening ten years before the Academy owed a debt of ten thousand dollars, and there was a mortgage on the property for that amount. Now not only had the debt been paid off, but there was, as he had been told, more than twelve times that amount in the treasury, which had been contributed by friends or given by bequests, ready to be used for the new hall that was so much to be desired. Its material prosperity was a subject for mutual congratulation, but if, as many of those present believed, the future standing and character of the profession in this city rested mainly on this Academy, he thought it had given great promise for the future in its higher aims—those of elevating and advancing its literature. He might say without question that, when this Academy was organized, the medical profession of this city had the reputation of doing very little for literature and science. While it had always had some bright and shining lights, who, by their abilities and acquirements, their able medical writings, and their brilliant achievements in surgery, had secured an honorable record in the annals of the profession, yet it had long been a reproach that the profession of this city did less for literature and science than it should, but that it was chiefly devoted to its pecuniary rewards. But this stigma no longer remained, and it was chiefly due, as he believed, to the stimulating influence of this Academy. The number of volumes on medicine and surgery, and on every variety of the specialties, which had been published by the fellows of this Academy, would constitute a library greater in number and of more value than could be found in the possession of a vast majority of the profession anywhere.

The speaker had spent a little time recently in looking up this matter, and he felt safe in asserting that, in the past decade, the fellows of this Academy had contributed to medical literature more than 25,000 8vo pages. The president, who had been listened to with so much pleasure, had added in one volume more than 1,100, besides at least a hundred more in the published transactions of medical societies. The retiring president, in the numerous papers which had emanated from him, had added several hundred more.

The truth was that so rapidly was medical literature increasing all over the world that it was a matter of extreme difficulty for a busy man to keep abreast with it, however earnestly and conscientiously he might try to do so; and a careful study of its periodical literature would almost drive one of advanced years in the profession to despair, for it aimed to absorb all the practical knowledge and progressive science of all languages and nations. This had caused such a change in medical literature by the introduction of so many new terms in it—derived from the modern languages—that if one of our most eminent men of fifty years ago could be raised from the dead, he would find it difficult to understand a great deal that he heard or read.

Fortunately, one of the fellows of the Academy had done much to remedy this difficulty and to enable us to secure accurate knowledge by the editorship of that remarkable work, with the assistance of most able collaborators, the "Encyclopædic Medical Dictionary." But the theme of the medical literature which the fellows of this Academy had contributed was too large a one for him to enter upon on this occasion.

Some ten years ago, at a public dinner of the Alumni Association of one of our medical colleges, he had been called upon to respond to the subject "Our Medical Literature." He had referred to the fact that between the years 1835 and 1845 Paris had had a larger galaxy of eminent men than had ever before been found aggregated in one city, for in this period there had been living Louis, Andral, Chomel, Trousseau, Dubois, Velpeau, Dupuytren, Lisfranc, Roux, and many others that he need not enumerate.

He had then expressed the belief, in view of the very large number of bright, ambitious young men who had been thoroughly educated and who had sought every advantage that could be received by study in foreign cities and hospitals, that within twenty-five years New York would have as large and as distinguished a class of medical men as Paris had had at the time to which he referred. He asked now whether this prophecy was not rapidly becoming history. Whether it should prove to be really so would in a great measure depend upon the fellows of this Academy.

The retiring president had, by his zeal, his unflagging devotion, and his wisdom and ability, done everything in his power to bring about this result.

The past history and the character of his work, in every field in which he had been occupied, were a full guarantee that the new president in every respect would be fully up to the standard of our high expectations.

It only remained for the fellows each and every one to aid him in every way in their power. Might it not be confidently hoped that the scheme which had been portrayed in the speaker's valedictory four years ago would eventually be carried out, and make this Academy the most important and the most influential of the medical institutions of the world, this being in accord with our future destiny as a nation in its commanding influence and position in the world?

*Meeting of February 21, 1889.*

The President, Dr. ALFRED L. LOOMIS, in the Chair.

**The Treatment of Inguinal Hernia with Reference to Radical Cure.**—Dr. CHARLES MCBURNEY, in a paper with this title, reviewed the reasons why recurrence of a hernia was so common after the operations heretofore used, and proceeded to describe his own operation minutely, and to give the results accomplished by it in the last two years. He concluded that any operation for the cure of hernia which left even a slight dimple in the peritonæum at the site of the opening invited a return of the hernia. When a drainage-tube was kept in the abdominal wall after a laparotomy, the peritonæum healed with a dimple at that point, and it was well known that ventral hernia was of much more frequent occurrence in such cases than when the peritoneal cavity had been closed without drainage. For the same reason any operation by which the sac of an inguinal hernia was removed at the external ring left an indentation into which the bowel would be apt to force itself again, in spite of the many accessory means that were attempted with a view to strengthening the support of the peritonæum at that point. Macewen's operation, or the reduction of the sac wrinkled up on itself inside the abdominal cavity, there to act as a pad over the opening, was a valuable procedure in that it obliterated the sac, but it did not reproduce the smooth surface of the normal peritonæum, and, moreover, was not available in cases where the sac was in an unhealthy condition, or where it was small and thin as in children, or in the congenital forms of hernia.

Some had proposed twisting the sac, but this method could not commend itself for general adoption when we considered the liability of the sac's breaking, or of its not being entirely obliterated, or of a part of the mesentery being included. It was, moreover, entirely unsuitable in the same classes of cases in which Macewen's operation was not available. A study of the causes of the previous failures in making a "radical cure" of hernia had led him directly to the method which he had come to adopt, and he had not been aware at the time that, in Germany, Otto Reisel had preceded him by twenty-five years in deciding to make the operation really radical by splitting the canal up to the internal ring, and there tying the sac with silk, or, if injured or congenital, cutting it off and sewing the opening together. This restored a smooth peritoneal surface at that point, as had been found by post-mortem examination a considerable time afterward.

The author then reviewed the various steps which were taken to strengthen or support the internal ring and to obliterate the canal—such as sewing together the pillars of the internal ring, narrowing the canal by sutures, freshening its sides by passing the finger up so that they might unite, or, as in Macewen's operation, carrying the tendon of the transversalis over and suturing it to the conjoined tendon and Poupart's ligament. The wedge of intestine, once started from above, would force its way through the resistance made by any or all of these attempted obstructions. The second object in his operation was to secure a dense and abundant cicatrix in the site of the canal, and to do this it was essential to have an open wound packed with gauze, and so absolutely avoid sepsis and œdema.

As to the time-honored idea that cicatricial tissue was always an unstable tissue and likely to yield whenever depended on for resistance, should it not be remembered how much trouble arose in various conditions from cicatricial tissue which was not absorbed and showed no tendency to become lax or elastic? The umbilicus was a cicatrix; we often saw such persistent cicatrices after burns and following a pelvic peritonitis. That after a laparotomy the scar did not prevent a ventral hernia in certain cases must not be given undue weight, since here the intestine was forced directly against the scar. The inguinal canal was a natural passage, and contained fat and areolar tissue, and nothing short of a granulation process could permanently obliterate it.

He began his operation by making a free incision from a point on the abdomen above the internal ring downward and inward, so as to lay open the whole canal. The spermatic cord was separated, and the sac dissected out to its very point of origin. It was then opened, any contained intestine reduced, and any pieces of omentum were tied off. The sac was now held up and the finger inserted to prevent the descent of the intestines; it was then tied off close to the internal ring. The conjoined tendon was next brought down, as in Macewen's operation. Then he proceeded to make an open wound by turning in the integument and suturing it to the superficial layers of muscle; he also passed several deep tension sutures. The wound was then packed with iodoform gauze and a suitable dressing applied. The urine was withdrawn with a catheter for the first few days to avoid soiling the dressings, and in the case of children a plaster-of-Paris dressing was used to give additional security, with a coat of shellac added in female children.

The supine posture was to be maintained during the five or six weeks necessary for healing to become complete, but it was time well spent, for the scar would thus be stronger, and the patient got up finally, free from the "slavery of the truss." It was better, in fact, not to apply a truss, as it would impair the strength of the scar by keeping up constant pressure and massage. He felt that he could safely say of his method that it was the only one which really secured an obliteration of the sac, a union of the walls of the canal throughout its length, and a minimum risk of abscess or infection. It was applicable to every variety of hernia, and cure was effected rapidly. In thirty-six operations on herniæ of every sort in which he had used this method he had had one death, and that from alcoholic delirium. There had been one relapse, due to a defect in the manipulation. Two patients had passed out of sight, and three were still under observation in the hospital, but there was every reason to believe that the remainder were permanently cured.

Dr. L. A. **Stimson** commended the many advantages of the operation and contrasted it with the other expedients to which recourse was sometimes had. When he had first heard of Dr. McBurney's operation he had thought the time needed more than was necessary for the cure of hernia, and that the same process set up in a portion of the wound would do as well and give a quicker cure. He had wasted a year, and had subjected a number of patients to disappointment, by attempting to get a cylinder of granulations formed about a drainage-tube which he had fastened in the canal; but, though cicatrization had formed, the recovery had been delayed beyond the time required after Dr. McBurney's operation, because the sutures used to fasten in the tube had become the seat of infection, and sinuses had resulted.

Some surgeons had hoped by operation to restore the canla, but it was well to keep in mind what the canal was in the normal anatomy. In people free from a tendency to hernia the so-called canal was a closed tract, the entrance to which was valve-like, and so placed that no amount of pressure in the abdominal cavity acted upon it except to press its walls still more tightly together. But in old herniæ there was no canal and no valvular arrangement; instead, there was a hole in the wall, formed by the coming together of internal and external rings into one, and covered only by skin, subcutaneous fascia, and peritonæum. The normal canal was not restored by any operation that he knew of, although it might look as if it had been at the time. We had no means of knowing that the dispositions of fasciæ and muscles which were sometimes made, with sutures to retain them in artificial positions, remained afterward. Only a hernia starting in a depression in the peritonæum just to one side of the origin of the cicatrix was likely to threaten the success of the result after Dr. McBurney's operation.

Dr. A. G. **Gerster** approved of the operation, but thought we should wait for from two to five years before calling the result of it a permanent one; until such a test was made, argument on the radical nature of the procedure was *a priori.*

Dr. R. Abbe remarked that a year previously he had thought, as Dr. Gerster had just suggested, that the cicatrix formed in the manner which Dr. McBurney had described would be apt to act like the median cicatrix in the incision made in laparotomy, but after seventeen trials he had concluded it was the best operation we had. He had operated for hernia a hundred and seventeen times, and fifty-two times by Macewen's method; this operation by contrast was simple, and required no special skill. When asked as to the reason of failures following his operation when done by others than himself, Macewen had said it was because no one did it correctly.

**The Care of the Indigent Insane.**—Dr. A. Jacobi called attention to the fact that a special bill had recently passed the House in the State Legislature allowing the people of Madison County to withdraw their insane from the State institutions, and to care for them in whatever local institutions or almshouses they might see fit. The conditions and professional talent which could be supplied in these small establishments were always so deficient that the chances of the recovery of that class of patients were almost destroyed. Considering, too, that the bill of the State Charities Aid Association providing for this same class of indigent persons was now before two committees and would soon come before the two houses, he had prepared a resolution in which the Academy protested against further action being taken in regard to the first bill until the fate of the second was determined. Carried.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN THEORY AND PRACTICE OF MEDICINE.

*Meeting of February 19, 1889.*

Dr. R. C. M. Page in the Chair.

**The Hot-air Cure for Phthisis.**—Dr. A. L. Stearne exhibited the apparatus devised by Weigert for heating the inspired air, and gave an account of the results which followed its use by consumptives. It consisted of a stand, supporting a double cylinder, which was covered with asbestos. The interior of the inner cylinder was heated by a Bunsen burner, so that pure air drawn in between the two cylinders became heated and at the same time disinfected. At the outset of treatment patients were made to inhale air at a temperature of 212° F. for thirty minutes. Gradually the sitting was prolonged to two hours, both morning and evening, and the temperature of the air was slowly increased to the highest point each patient could endure without discomfort; the maximum reached in any case had been 482°.

The chief results were the following: 1. The pulse, at first faster, became slower as the inspirations continued, and the respirations became deeper. 2. The body temperature rose at first one or two degrees, but in the course of an hour sank to normal, the exhaled air having a minimum temperature of 113° F. 3. While the general health remained undisturbed, the difficulty in breathing was at once removed; there was lessening and finally cessation of cough, fever, and night-sweats, and the appetite and strength improved. The disease in time came to an end in fact, the hæmorrhages, catarrhal lesions, infiltrations, and the dilatations of the bronchi all being put a stop to; cavities underwent cicatrization; the weight increased rapidly, especially where emaciation had been extreme; and the bacilli slowly disappeared from the sputa, sometimes in as short a time as fourteen months.

**Simple Non-tubercular, Non-metastatic Abscess of the Lungs.**—Dr. S. S. Jones read a paper with this title. He called attention to the fact that there was nothing in the text-books which took account of the occurrence of this lesion. The lung was peculiarly prone to inflammation, but could easily discharge the products through the bronchi, so that a small abscess might easily run its course without attracting notice. There were four forms which the disease might take: 1. The condition might remain obscure from the beginning, and give no manifestation of its presence until the discharge of pus, or the appearance of evidences pointing to a cavity. 2. It might give rise to symptoms simulating pleurisy, with effusion which afterward became purulent. 3. Phthisis might be simulated. 4. It might resemble *pneumonia ambulans* in its going from lobule to lobule, or from one lung to the other. However, there were two conditions which almost always presented in connection with the disease—a depreciation in the general health for months before the abscess formation, and general alcoholic poisoning. The liability was the same at all ages. The course of the disease could best be examined by reviewing the history of several typical cases.

1. A delicate boy, for two weeks previous to the development of the pulmonary abscess, suffered from headache, insomnia, fever, pain in the left side, and cough without expectoration. An area of dullness had been found below the spine of the scapula, which also gave loss of vocal fremitus and respiratory murmur. Later on suppurative amygdalitis had been developed, and still later a large amount of fœtid pus had been coughed up, after which recovery had slowly taken place.

2. This case (taken from the "Lancet") had resembled an attack of pleurisy with effusion, toward the close of which a bulging had appeared on the left side, the tonsil had become inflamed and had suppurated, and afterward the swelling in the side had burst and discharged a large quantity of pus; but, as the proper treatment had not even then been gone into, the patient had died of the abscess.

3. This case had begun with suppurative amygdalitis, which had gone on to recovery, but subsequently there had been a rigor, and signs of consolidation had developed, and still later a pint or more of pus and blood had been coughed up. Apparent recovery from this attack had been followed after a time by a second attack in which the same symptoms had been repeated. The pus had contained the pneumococcus of Friedländer.

4. This case had first presented palpitation resembling that resulting from a gastric disturbance, and the condition had been much improved by a better diet; but afterward cough, fever, and emaciation had appeared, and an area of dullness had been found in the right subscapular region; still later pus and blood had been coughed up in amount. A cavity and profuse expectoration had persisted for some time, but gradually the cavity had closed, the night-sweats had ceased, and the patient had regained his ordinary weight of two hundred pounds and robust health in every particular.

The rapid recovery of health that followed the evacuation of one of these simple abscesses, as well as an examination of the pus under the microscope, would serve to distinguish them from tubercular abscesses. The larger abscesses of this variety should be freely incised and drained early in the course of the disease. Injections of antiseptic solutions were to be avoided. Much attention was to be given to food, air, and surroundings. There was no doubt that many died of the disease in whom it was not recognized.

The Chairman would add that no reference had been made in the paper to abscesses resulting, often only after years, from the lodgment of a foreign body in the lung substance.

Dr. A. L. Loomis said that he regarded the disease as very rare. He had met with it in a very few cases, and in one or two instances had made autopsies by which its nature had been proved. In all his cases, signs of inflammation had preceded the abscess formation; in all, the general condition had been such as would have favored the spread of any inflammatory process; and in some it had seemed to occur in a lung which had previously been the seat of a pneumonia followed by increase of connective tissue in the lung and pleura. As to treatment, he would only say that he himself should be loath to pass a knife through the lung to empty such an abscess while any chance remained of the pus finding an outlet through the bronchi.

**Anodal Diffusion.**—Dr. Frederick Peterson read a paper with this title, in which he endeavored to show the powerful influence of the positive pole of the galvanic battery in causing the absorption of drugs—such as chloroform, cocaine, or aconitine—through the unbroken skin, thus affording an unequaled means of relieving neuralgias. He exhibited an apparatus consisting of a carbon cylinder covered with linen, both of which materials could be impregnated with the solution of the drug, and about which there was a rubber cup by which evaporation was checked.

Dr. M. A. Starr remarked that the subject deserved attention, and the method described by Dr. Peterson a general trial. He could testify himself to the relief afforded. Provision needed to be made to prevent an overdose of the drug being used. He believed that the method might be made useful in diagnosis to determine whether an attack of *tic convulsif* in a branch of the trifacial nerve, for instance, was due to a peripheral inflammation or to hysteria; in the former case the anode charged with cocaine being placed over the painful nerve would at once stop the pain. No scar was made, as when cocaine was injected.

Dr. L. C. Gray and Dr. B. Sachs expressed doubts as to the usefulness of the method; Dr. W. R. Birdsall thought that the action of the anode had much to do with the good effects, but that perhaps it was the combined action of both current and drug which gave the results that had been observed; and Dr. C. L. Dana was surprised that Dr. Peterson had got no constitutional effects from aconitine used in this way, since Dr. Squibb had obtained them from merely rubbing a little of a one-per-cent. solution of the drug into the unbroken skin. The method, he believed, had an undeniable value.

**Diffused Pigmentation following the Use of Arsenic.**—Dr. W. M. Leszynsky presented a young child in whom this condition had been slowly developed, after the administration of ordinary doses of Fowler's solution for chorea. There was no erythema, and the health was good. There was nothing pointing to Addison's disease.

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## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN SURGERY.

*Meeting of February 11, 1889.*

Dr. Robert Abbe in the Chair.

**The Repair of Nerves and Tendons severed at the Wrist.**—Dr. C. A. Powers presented a man who two years before had received a wound in the wrist by which the uppermost tendons, the median artery, and the ulnar nerve had been cut through. The case had been referred to the speaker by the physician who had first been employed, with the statement that the tendons and nerves had not been united when the wound had healed. In the parts of the hand supplied by the ulnar the speaker had found complete anæsthesia and muscular paralysis. He had sewed up the severed tendons and nerve and had obtained deep union. Six days later there had been great pain in the skin supplied by the reunited nerve, but this had slowly subsided. After three months sensation had returned in the hand, but motion in the muscles of the hand supplied by the distal part of the nerve had not returned as yet. This was the usual order after union of a divided nerve-trunk. To get good union of severed tendons free from adhesions was too important a result to be left to the unaided effort of repair, especially in the case of the flexor tendons. Immediate suture of these tendons, flexion of the hand on the wrist, and three weeks of rest followed by passive motion, were always best to secure recovery of function.

Dr. E. V. Agramonte believed that movement should be begun as soon as healing commenced, to prevent the formation of adhesions.

The Chairman remarked that the extensor tendons did not retract when severed as much as the flexor did, and that, after division of the former, position alone was enough.

**Bony Reproduction of the Patella.**—Dr. V. P. Gibney presented a boy in whom the entire patella had been formed anew after being removed for necrosis. The functions of the joint had been entirely restored. Only the prepatellar region had been opened, and drainage of the cavity left after the extraction of the decayed bone had been made. Recovery of motion with a fibrous growth in place of the patella, and a growth of the bone with a stiff joint resulting, had been reported in several different instances. In one case in which he had attended, acute rheumatism had been followed by suppuration in the prepatellar region and exfoliation of the patella. He had removed the latter in time to prevent invasion of the joint, a step which he considered it was always better to take in such cases rather than risk a suppurative arthritis. The bone had formed anew in this case, but with many cicatrices about it, and the joint had remained stiff and subluxated.

The Chairman commented on the resemblance of this sort of bone formation to that often seen when a subperiosteal abscess healed after the extrusion of the sequestrum.

**Two Anomalous Cases.**—Dr. R. T. Morris presented two pathological specimens of obscure formation and origin, and asked for opinions as to diagnosis and prognosis. In the first case scarlet fever in a man of thirty-four had been followed by a swelling in the lobe of the left ear which had extended downward along the ramus of the jaw. The skin in this region had become hot and swollen, and solid to the feel, owing to the infiltration which it had undergone. It had also been noticed that the change was confined to the integument. Finding that the swelling was constantly increasing, he had removed the whole mass. It had proved to be composed of gelatinous and cheesy material surrounded by connective tissue, and a microscopical examination had revealed the presence of an infiltration of young cells and lymphoid cells of a clearly malignant character.

In the second case an abscess on the lower surface of the left lobe of the liver, after remaining in a latent condition for eleven years, had all at once become enlarged and painful, so as to require opening. The discharge of pus had been considerable at the time, but had continued after the first evacuation, and some time afterward a large amount of calcareous matter had been found to have formed about the sides of the cavity. Having thereupon made a wide opening over the site of the tumor, he had come upon a large fibrous mass to which the intestines were adherent. In its interior was a cavity lined by a pyogenic membrane of extraordinary thickness which was covered with scales of calcareous deposits. There were also concretions in the wall of the sac. He had been unable to remove the fibrous capsule on account of the adhesions, but had scraped out the interior thoroughly, and the wound had healed without difficulty. However, the pyogenic membrane had since formed again, and the discharge of pus and the deposit of calcareous matter had become as active as ever.

The Chairman remarked that the case had at one time been under his care, and that he had performed the same operation as that vainly done a second time by Dr. Morris. The persistence of the discharge might perhaps represent a perversion or a vicarious performance of the urinary function.

**The Organization of Bone from Blood-clots after Excision of the Knee.**—Dr. A. M. Phelps showed diagrams of the excavations in the tibia and femur which he had made during excision in several typical cases of tubercular disease of the knee joint, and which he had allowed to fill with blood, and had then left to organize by displacement into bone. Several times he had obtained renewal of the bony substance, amounting to a replacement of almost the entire head of the tibia or femur, when amputation would otherwise have been necessary. Antiseptic precautions had to be carried to their utmost limits of nicety if organization of the clot was to be hoped for. It would not take place under gauze unless the wound was covered with Lister's protective, and the latter dressing was the only one which he had found reliable for placing directly over the wound in this operation. Above it he placed antiseptic gauze, then cotton over the whole limb, and plaster of Paris over that, and finally slung up the limb to secure absolute rest. Bichloride-of-mercury or carbolic-acid solution or a drainage-tube left in the cavity prevented organization of the clot. This method of bone reproduction applied in excision was less dangerous than amputation, and always deserved trial first, unless the disease extended too far into the shaft. No wire should pass through the cavity.

He had operated in this way for disease of the knee joint twenty-one times, and with good results; only one of these patients had to wear a posterior splint, as good fibrous union had occurred when bony union did not. In no case had there been suppuration or a temperature above 102° F.

The Chairman remarked that he had obtained organization of a blood-clot many times under a sheet of rubber-tissue. If the latter was properly cleaned, he could not see how it should interfere with success.

## NEW YORK NEUROLOGICAL SOCIETY.

*Meeting of February 5, 1889.*

The President, Dr. George W. Jacoby, in the Chair.

**A Study of Experimental Myelitis.**—A paper on this subject was read by Dr. Christian A. Herter, in which he said that the object of the paper was twofold—first, to show that it was possible to give rise to an acute localized myelitis in animals (cats, rabbits, dogs) by temporarily shutting off the blood-supply of the spinal cord; secondly, to describe in detail the histological characters of the process thus induced. Stenson's operation, as modified by DuBois-Reymond, was used to deprive the cord of its blood-supply. This consisted in passing a curved needle through the abdominal wall on one side of the vertebral column and bringing it out on the other in such a manner as to include among other structures the aorta and vena cava. The needle carried a strong ligature, which was tied so tightly over the back of the animal as to effectually compress the abdominal vessels. The spine of the fourth lumbar vertebra was the level at which the needle was passed. The effect was to produce an almost instantaneous paraplegia. If compression was exercised for a shorter time than three quarters of an hour, the paralysis passed off rapidly; if for more than an hour, it became permanent, and did not diminish during the life of the animal. In these cases lesions of the cord, peripheral nerves, and muscles could regularly be detected shortly after the operation. Pathological changes were visible in the anterior horns of the fifth and sixth segments as early as twenty-four hours after the operation. In a few ganglion cells the cell-body was pale and swollen and the nuclei were obscured. Twelve hours after, a larger number of cells was involved, and many had lost their processes and in some instances their nuclei. After a lapse of seventy-five hours the necrotic changes in the ganglion cells were much more intense, and involved, at least to some extent, about half of the cells in each section. In consequence of these changes in the ganglion cells the anterior nerve-roots had undergone partial degeneration. Sections stained by Weigert's method showed that the fine network of medullated fibers of the gray substance was also distinctly altered in places. Many of the vessels and perivascular spaces showed evidence of inflammatory change. By the end of the sixth day the inflammatory process was much more advanced. Twelve days after the operation no normal ganglion cells could be found in the fifth and sixth lumbar segments. After thirty days the nervous elements of the central gray matter were all but completely destroyed. In a majority of sections from the most diseased region no ganglion cells could be detected. Nothing remained of the network of medullated fibers. The anterior horns were completely degenerated. The posterior nerve-roots were infiltrated with small round cells, as was also the intervertebral ganglion. The spinal nerves derived from the diseased portions of the cord underwent degeneration closely resembling that occurring in distal parts of divided nerves. Interesting changes were found in the muscles. Hæmorrhages into the perimysium were visible in the first week. By the sixth day a curious condition of vacuolization was found in individual fibers, which by the thirtieth day could only be detected here and there. At this time the majority of the fibers had undergone simple atrophy, and coincident with this change there was hyperplasia of the interstitial connective tissue. Many of the larger fibers had undergone granular degeneration. In long-standing cases the bladder was the seat of great muscular hypertrophy and connective-tissue hyperplasia. In non-pregnant females the mucous membrane of the uterus was regularly the seat of hæmorrhagic infarctions. In Stenson's experiment we had a method of inducing a form of myelitis in animals which in certain stages bore a close resemblance to processes which occurred in man. This fact suggested that interference with the blood-supply of the human spinal cord might be an ætiological factor in some varieties of myelitis. A few cases had been recorded which justified the suspicion that embolism of the spinal cord could give rise to an acute myelitis, and it was not improbable that other causes of vascular obstruction might produce the same effect.

Dr. Heitzmann felt that he could discuss the subject of myelitis intelligently after having studied it twenty-five years. Experimental myelitis had been the object of much careful work in his own laboratory by Emerson, Rockwell, and Bayer. The results of their work had been published in this country, and he wondered why Dr. Herter had ignored them. He could understand the writer's taking the ground of his teacher that there was an emigration of leucocytes, and not a proliferation of neuroglia cells. Why was Cohnheim ignored? In the drawings accompanying the paper he had noticed œdema very distinctly, but Dr. Herter had not mentioned its presence. This œdema was no doubt the cause of the change in shape of the central canal. In his opinion the gray matter itself furnished most of the corpuscles which Dr. Herter called leucocytes. This he had learned from his own laboratory work, and Robinson had shown, twenty-five years ago, by producing inflammation in the sympathetic ganglia, that the ganglion cells plainly broke up into these corpuscles. They were not replaced by leucocytes, but, through nutritional changes, fell back into embryonal conditions. What right had we to speak of connective tissue in the gray substance? It was protoplasm full of activity. To show these changes, osmic acid, bichromate of potassium, and chromic acid should be used, and not alcohol, which he supposed the author had employed. There was not a single proof that leucocytes, even if present, ever formed connective tissue. As to the myositis, he supposed the author would refer that too to migration of leucocytes into the perimysium.

Dr. Van Gieson had but to say that he was gratified to hear so excellent a paper upon the subject, and believed that Dr. Herter was perfectly correct in all his inferences and conclusions.

Dr. Birdsall agreed with Dr. Van Gieson. He thought the deductions of the paper very carefully and cautiously stated, and that the author had avoided any decided expression of pathological theories. He was unable to see that the writer had ignored any literature upon the same subject. Dr. Heitzmann's references were not to work upon experimental myelitis produced in animals, but to myelitis. He would ask Dr. Heitzmann if this was not true. (Affirmative answer.) He believed that some of the tissues were produced in the way that Dr. Heitzmann suggested, but that no theory was as yet entirely satisfactory. From his own embryological study he thought that ganglionic cells were composed of embryonal corpuscles, but did not think it certain that there was a retrogressive change of this kind in the inflammation described. He thought that Dr. Herter ought to go on with this subject, as there was evidently much that could be done. There might be other factors in producing the inflammation than mere cutting off of the blood-supply, as the operation seemed to be quite severe. He had observed a particular susceptibility to paraplegia in dogs and rabbits, although few or no post-mortem changes were discoverable.

Dr. Sachs thought that the point of greatest importance established by the author was that the cells of the anterior horns were the first to be changed. The theory of Strümpell and others as to the infectious nature of some spinal-cord diseases might often be explained perhaps by vascular changes. Possibly bacterial occlusion of spinal vessels might cause acute poliomyelitis. The muscular changes described by the writer were different in man. In animals vacuolization was early, but in man after long-continued chronic disease of the muscles.

Dr. Mary Putnam Jacobi had been particularly struck by the apparent identity of symptoms produced by cutting off the blood-supply and by furnishing blood in excess. Some of the older experimenters had occluded arteries by the injection of powders. The author's contribution confirmed Ranvier's statement that the first step in inflammation was change in nutrition. The question had occurred to her whether all these vascular alterations were not the immediate result of loss of directive power over the blood-vessels by the cells which governed it.

The President had examined Dr. Herter's specimens microscopically, and there was no doubt as to the changes in the posterior roots. He did not think the alterations in the muscles were properly vacuolization—not such as in Wagner's specimens, which he had also seen. It was a question if all the changes were due to the cord lesion.

Dr. Herter said that, as to Dr. Heitzmann's criticisms, to answer him would involve a reconsideration of the whole question of inflammation, as his views upon that subject seemed to be so sweeping and revolutionary that they would require more examination and thought than he was able at the time to give them. His specimens had many of them been examined in the fresh state, and some after hardening in Müller's fluid. They had not been treated with alcohol. As to there being no connective tissue in the spinal cord, this was at variance with the generally accepted views, and it was difficult for him to conceive of its absence. He knew of the experiments referred to by the president, but thought they were confined more to the study of grosser effects and lesions, and not to the study of microscopical changes.

**A Case of Hemiplegia with remarkably Perfect Associated Movements on the Paralyzed Side.**—Dr. Sachs then presented a young man of twenty-three who had had infantile hemiplegia at the age of one year as the probable result of a fall. The paresis, contractures, and exaggerated reflexes of the left side were the remnants of this early attack. He also described a second case occurring in a girl of twelve whose early history was very obscure, but whose physical symptoms pointed to a similar attack in early life. Both cases presented the marked peculiarity that all the movements of the sound arm and hand were imitated by the paretic members, and *vice versa*. The same was true to a lesser degree of the lower extremities. In Case No. I, if he attempted to raise his arm, the right would also be raised; in lifting a glass from the table with his left hand, the right hand would perform the same movements. They were very marked in buttoning or unbuttoning his clothes, when the paretic hand would make the same motions. In Case II these delicate movements were also present, but the grosser kinds were not imitated by the paretic hand. Some charts designed by Dr. Peterson were exhibited to show the resemblance between the original and the associated movements. They were copies of zigzag lines made by the patient on a horizontal blackboard with a piece of chalk in each hand. Dr. Sachs remarked that it was difficult to explain these associated movements, and it was curious that the very members of our bodies which were innervated singly from our earliest days should perform associated movements in disease. It was supposed by some that, inhibition having been removed by cortical or intracerebral disease, the natural tendency to bilateral movements returned, and that the paretic hand was moved from the sound half of the brain. There were numerous objections to this theory, and it could not explain the associated movements of the sound hand when attempts were made to move the paretic hand. The speaker thought it more probable than an irradiation took place lower down in the central nervous system, either in the pons, medulla, or even in the spinal cord, and that these associated movements were to be regarded as imperfect reflex movements. He did not think that such movements could be explained by the supposed existence in many persons of an unusually large number of uncrossed motor nerve-fibers.

Dr. Herter asked if there were athetosis and atrophy in the cases, and was answered that there was as much atrophy as usual in cerebral cases, but no athetosis.

Dr. Leszynsky had noticed in such cases that when the attention of patients was directed to the paretic hand these associated movements occurred, but not otherwise.

Dr. Peterson said they were undoubtedly increased by the attention of the patient being directed to the movements, but not caused by it.

Dr. Birdsall and the President both remarked upon the great rarity of cases showing associated movements to such an unusually perfect degree.

## Miscellany.

**Irish State Prisons and their Physicians.**—Dr. Thomas Laffan, of Cashel, Ireland, has sent us a communication in which he says: "I venture to invite a discussion in your columns on the obligations of prison doctors to their prisoners. I do not propose to deal with the political aspects of the question. I shall not therefore offer any opinion as to whether Mr. William O'Brien, now confined in Clonmel Jail, is a political or an ordinary prisoner. Neither shall I discuss the topic as to whether political prisoners ought or ought not to be treated like ordinary ones. I shall merely propound for your opinion and that of the profession the following questions:

"1. Is it, or is it not, a fundamental dogma of our profession that a physician is to see in an individual under his charge the patient only, irrespective of rank, place, moral guilt, etc.?

"2. Can a prisoner be properly examined in the course of one minute or thereabouts by an official physician, as was the case with Mr. William O'Brien?

"3. Does a patient actually suffering from phthisis, like Mr. O'Brien, receive all the treatment to which he is entitled at the hands of our profession when he is merely sent to an infirmary, but without receiving any other diet, etc., than that prescribed for the healthy?

"4. If an official physician is not a perfectly free agent, is it compatible with professional honor that he should continue to hold office under such circumstances?

"5. Are Irish prison doctors so hampered as not to be free agents, or are they, on the contrary, entirely unfettered and at perfect liberty to prescribe for their patients in accordance with the rules of their art?

"To conclude, I am strongly of opinion that this is a matter which so nearly touches the honor of the profession that medical men of opposite politics and of no politics ought to address themselves to it. I have carefully avoided all reference to politics in this letter, though, of course, I have, as I have a right to have, my own political views, and have never shrunk from asserting them at the proper time and place."

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending March 15th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y. | March 9. | 1,557,348 | 877 | .. | .. | .. | .. | .. | .. | 2 | 54 | 50 | 21 | 24 |
| Philadelphia, Pa. | March 9. | 1,040,246 | 435 | .. | .. | .. | .. | .. | .. | 21 | 8 | 8 | .. | 2 |
| Chicago, Ill. | March 9. | 830,000 | 295 | .. | .. | .. | .. | .. | .. | 2 | 3 | 26 | 8 | 2 |
| Brooklyn, N. Y. | March 9. | 814,305 | 398 | .. | .. | .. | .. | .. | .. | 2 | 6 | 26 | 13 | 8 |
| Baltimore, Md. | March 9. | 500,343 | 151 | .. | .. | .. | .. | .. | .. | 1 | 3 | 4 | .. | 1 |
| St. Louis, Mo. | March 9. | 440,000 | 172 | .. | .. | .. | .. | .. | .. | 3 | .. | 11 | 5 | 3 |
| Cincinnati, Ohio. | March 9. | 255,139 | 119 | .. | .. | .. | .. | .. | .. | 3 | .. | 10 | .. | .... |
| New Orleans, La. | March 2. | 251,000 | 114 | .. | .. | .. | .. | .. | .. | 1 | .. | 5 | .. | .... |
| Detroit, Mich. | March 9. | 250,000 | 63 | .. | .. | .. | .. | .. | .. | 2 | 2 | 2 | .. | .... |
| Cleveland, Ohio. | Feb. 16. | 235,000 | 66 | .. | .. | .. | .. | .. | .. | 5 | 2 | 1 | .. | .... |
| Cleveland, Ohio | Feb. 23. | 235,000 | 76 | .. | .. | .. | .. | .. | .. | 1 | 1 | 4 | .. | .... |
| San Francisco, Cal. | March 1. | 230,000 | 129 | .. | .. | .. | .. | .. | .. | 3 | .. | 2 | .. | .... |
| Pittsburgh, Pa. | March 9. | 230,000 | 96 | .. | .. | .. | .. | .. | .. | 2 | 2 | 2 | 7 | 3 |
| Washington, D. C | March 9. | 225,000 | 87 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | 2 |
| Milwaukee, Wis. | March 9. | 210,000 | 69 | .. | .. | .. | .. | .. | .. | 1 | 1 | 3 | 1 | .... |
| St. Paul, Minn. | Feb. 23. | 180,000 | 37 | .. | .. | .. | .. | .. | .. | 2 | 3 | 2 | 1 | .... |
| Minneapolis, Minn. | March 9. | 180,000 | 48 | .. | .. | .. | .. | .. | .. | .. | .. | 5 | .. | .... |
| Providence, R. I. | March 9. | 127,000 | 41 | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | 1 |
| Rochester, N. Y. | March 9. | 120,000 | 41 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | 1 |
| Denver, Col. | March 8. | 100,000 | 29 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Richmond, Va. | March 9. | 100,000 | 21 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Toledo, Ohio | March 9. | 80,000 | 19 | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | .. | ... |
| Camden, N. J. | Feb. 28. | 70,000 | 32 | .. | .. | .. | .. | .. | .. | 2 | 1 | 1 | .. | .... |
| Nashville, Tenn. | March 9. | 65,153 | 17 | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .... |
| Fall River, Mass. | March 9. | 65,000 | 28 | .. | .. | .. | .. | .. | .. | 1 | 2 | 1 | .. | .... |
| Charleston, S. C. | March 9. | 60,145 | 21 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Lynn, Mass. | March 9. | 50,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Manchester, N. H. | March 2. | 42,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Portland, Me | March 9. | 40,000 | 15 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Council Bluffs, Ia. | March 2. | 35,000 | ...... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Davenport, Iowa. | March 9. | 33,715 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| E. Saginaw, Mich. | March 9. | 33,000 | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Burlington, Iowa. | Feb. 22. | 30,166 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa. | March 9. | 30,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Auburn, N. Y. | March 9. | 26,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass. | March 9. | 25,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Newport, R. I. | March 7. | 22,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newton, Mass. | March 2. | 21,553 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Newton, Mass. | March 9. | 21,553 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Keokuk, Ia. | March 9. | 16,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Pensacola, Fla. | March 9. | 15,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**The New York Academy of Medicine.**—At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 26th inst., Dr. T. W. Corwin will present a case of complete bony occlusion of the anterior nares; Dr. S. T. Armstrong will present a case of laryngeal vertigo; and Dr. C. L. Dana will read a paper on "The Central Tracts of the Olfactory Nerve and their Diseases."

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 28th inst., Dr. J. E. Janvrin will report a case of myxo-sarcoma of the Falloppian tube; Dr. P. F. Mundé will report a case of myxo-sarcoma of the uterus; Dr. H. W. Mitchell will report cases of fistula in ano in women, operated on by suture; and Dr. P. F. Mundé will read a paper on "Combined Operations in Gynæcology."

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## ANSWERS TO CORRESPONDENTS.

*No. 257.*—Our impression is that sulphonal is not. The others are.

*No. 258.*—We do not remember to have seen the condition treated of as a complication of locomotor ataxia, but perhaps you may find it mentioned in connection with Charcot's joint disease. As to treatment, a mild galvanic current applied to the ulcer might be of service, but we should not be confident of benefit from any treatment.

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**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

THE NEW YORK MEDICAL JOURNAL, March 30, 1889.

## Original Communications.

# TREATMENT OF PNEUMONIC FEVER.

By EDWARD F. WELLS, M.D.,

LATE PROFESSOR OF MATERIA MEDICA, COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO.

### Introductory.

It is only by a correct appreciation of the limits of our art in modifying the natural course of pneumonic fever that we are able to realize how far we as yet fall short of the ideal in its treatment. At the very threshold of this most important theme we must candidly admit that the ordinary management of this affection in times past has been, on the whole, signally unsatisfactory. Can we review that in vogue to-day with greater complacency? With all our boasted advances in diagnostics and pathology, in chemistry and pharmacology, are we able, by known means, to exert a certain and direct control over the course and termination of this malady? Time and experience have demonstrated that the vast majority of the measures formerly considered essential to its cure are either useless or pernicious; and may not this be the fate of many of those now employed and lauded? Hahnemannites and therapeutic nihilists have shown that the mortality of pneumonic fever is not appreciably increased by the non-employment of drugs in its treatment, and I have demonstrated [*] that the fatality, in a vast number of cases, varies but little, regardless of time, place, and circumstance. From these facts we may legitimately conclude that if the past and present appalling death-rate of this ubiquitous foe of mankind is to be reduced, the best means are yet to be formulated.

The expectant plan of treatment has been investigated by a number of observers,[†] all of whom bear witness to the truth of the proposition above laid down, to wit: that the withdrawal of drugs from the management of pneumonic fever does not appreciably increase the mortality.

My own experience in this line is limited to fifteen cases. In nine of these the patients were either convalescent or moribund when first seen, four were very mild cases, and two were severe. All save the moribund patients recovered, but the limited number of cases, their character, and the circumstances under which they were observed, render them an unsuitable basis for deductions. My experience in this malady, however, has abundantly convinced me that much can be done toward relieving suffering, in modifying and curtailing the course of the disease, and in diminishing its dangers. Holding such tenets, and having an abiding faith in a rational system of therapeutics, I can not advise the practitioner to assume the rôle of a useless, although an interested, spectator by the pneumonic bedside.

From this conclusion it does not necessarily follow that more successful methods of treatment may never be found, nor that the physician should be only an indolent and apathetic student of the natural history of the disease. On the contrary, thought, investigation, observation, analysis, and publication should be the order of the day, for only in this way is real progress possible.

There are two methods of estimating the comparative value of different modes of treatment—the statistical and the clinical. Both are open to many and serious objections. As to the former, it is evident that, although the disease under discussion has been for generations the chosen battle-field of therapeutics, and to which each sect has "pointed with pride" in the way of "unparalleled results," it is one peculiarly unfitted for such comparison, inasmuch as it is impossible to take into consideration the disturbing influence of age, sex, race, condition, habits, residence, season, climate, and weather; the extent, stage, character, and locality of the local morbid process; the complications, intercurrent affections, epidemic influences, and many other important circumstances liable to raise grave doubts as to the correctness of conclusions deduced from such unknown quantities. On the other hand, the opposite plan is open to objections of almost equal gravity. This will be acknowledged when it is considered how difficult it must be to obtain trustworthy evidence regarding a vast number of incidents as observed, analyzed, and weighed by a great number of minds of widely different caliber and in various unknown psychical conditions. In estimating the value to be accorded to the statements of authors regarding their impressions derived from individual experience, it is well to bear in mind the old and often true maxim of *experientia fallax.* Both methods being open to such serious objections, it is our plain duty not to subscribe to or employ either exclusively, but to accord to each its due proportion of merit.

### Prophylaxis.

Prophylaxis, as concerns pneumonic fever, consists in avoiding exposure to those external and internal influences which are known to favor the development of the disease. The clothing should be warm and comfortable, the house should be carefully warmed and ventilated, and exposure to chilling winds, sudden changes of temperature, and night air avoided. Although it has not as yet been demonstrated that the malady is propagated by the inhalation of the dust of dried pneumonic sputa, yet ordinary discretion should lead us to disinfect [*] and destroy it as soon after expectoration as possible. Remaining long in a room containing a pneumonic patient should be avoided.

Burdon Sanderson [†] hoped for good results in the direction of prevention by means of inoculations of pneumonic exudate; but to be convinced that this promise is illusive, one need only call to mind the fact that, instead of one attack preventing subsequent infection, it predisposes to it.[‡]

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[*] "Cincinnati Lancet and Clinic," June 10, 1882, p. 500; "Jour. of the Am. Med. Assoc.," Dec. 12, 1885.

[†] Arnold, "Trans. of the Ninth Int. Med. Cong.," Washington, 1887; Blache, "Bull. gén de thérap.," 1862, p. 368; Bondet, "Soc. méd. de Lyon," 1864; Borgeois, "L'Union méd.," Jan. 3, 1860; Cantani, "Il Morgagni," 1882; Charcot, "Thèse de l'aggreg.," 1857; Cotting, "Med. Addresses," Boston, 1875; Dietl, "Pneumonie," Wien, 1848; Faure, "Mal. des enfants," Paris, 1866; Fiere, "Thèse de Montpellier," 1864; Le Beuf, "Pneumonie," Paris, 1870; Legendre, "Arch. gén. de méd.," September, 1859; Loebel, Canstatt's "Jahresb.," 1865; Niemeyer, "Spec. Path. u. Therap.," Berlin, 1862; Rühle, "Berliner k. Wochenschr.," 1884; Trousseau, "Clin. med.," 1873; Walcher, "Thèse de Strassb.," 1868; Wilbrandt, "Inaug. Diss.," Rostock, 1862.

[*] Budd, "On Fevers," London, 1873; Marriner, "Lancet," 1882, vol. ii, p. 237.

[†] "Brit. Med. Jour.," July 14, 1877.

[‡] See, also, Rohé, "Jour. of the Am. Med. Assoc.," July 2, 1887, p. 3.

In some cases an initiatory catarrh—a common cold—prepares the system for an attack of pneumonic fever. It should therefore be the endeavor of the medical attendant to relieve this condition as speedily as possible, and in this manner prevent possible ulterior evil consequences.

By proper management most cases of ordinary catarrh may be certainly, quickly, and easily cured. If the bowels are sluggish, an aperient or a brisk cathartic should be given. The patient should have a hot foot-bath and then be put to bed, between woolen sheets, in a moderately warmed room, the atmosphere of which is moist. He should drink freely of hot and stimulating drinks, and have the nose, throat, and chest anointed with stimulating and unctuous substances, such as turpentine and vaseline, etc. Of medicines there may be mentioned veratrum viride, pilocarpine, morphine, chloroform, etc.*

Various drugs have been reputed to have a preventive power over the disease.

Thus Merrill,† believing, on insufficient grounds, that pneumonic fever is due to the malarial poison, has recommended the use of quinine and arsenic for this purpose.

## Regimen and Diet.

The surroundings and nursing of the patient are matters of prime importance. The sick-chamber should be of moderate size, well ventilated, comfortably furnished,‡ and having, if possible, a sunny exposure. The air of the room should be maintained at an agreeable temperature, free from draughts,# and charged with moisture and soothing, stimulating, antiseptic, or odorous substances,‖ as indicated in each particular case.

Lebert△ recommends a temperature of 66° F., but this may vary within moderate limits according to the sensations of the patient.

Although an agreeably warmed room is to be desired, yet my experience does not indicate that it is indispensable. During the intensely cold weather of January, 1875, I was asked to see an old, broken-down man, six days ill with pneumonic fever, locally involving the entire right lung. He lay in a miserable hut which afforded absolutely no protection from the cold. His mustaches were a mass of ice. He was very ill, with delirium, carphologia, subsultus tendinum, a weak and thready pulse, sordes, etc., yet his recovery was prompt and complete.

So long ago as 1618 Tossius a Serra* recommended cold air in the treatment of this malady, and the plan has been advocated by Chomel,† Drake,‡ Everett,# Hartshorne,‖ Woitkewitsch,△ Wyman,◊ and others.↧

Hartshorne was called to see a man of thirty-five, in the midst of an attack of pneumonic fever, and "found him lying with his two windows wide open near the bed, the thermometer indicating 17° F. When I attempted to close one of the windows he made known at once his distress for want of air. Continuing, with reluctance, this aerial refrigeration of his lungs, his recovery suggested the thought that to the inflamed pulmonary tissue possibly a direct apyretic influence may have been thus extended, similar to that of cold applications to a superficial inflammation."

Everett keeps his patient in a room heated to 80° or 85° F., whilst he inspires, through an elastic tube, air having a temperature of from 10° to 15° F. If the outside air is not cold enough, it is drawn through a refrigerator.

I have had an opportunity of observing this method of treatment in nineteen cases. In eleven the sick-room was such as to afford unwilling experimental conditions—the patients being exposed in apartments having temperatures ranging from − 20° to + 32° F. In two cases Everett's plan was instituted, but was discontinued in six and ten hours, respectively. Both cases proved severe and the patients declared the treatment very disagreeable and, they believed, harmful. Both recovered. In six other cases the cold air was inhaled for fifteen minutes every one or two hours, but without any manifest advantage. In two of these cases the local inflammation extended its limits after the inhalations were begun, and this result might be expected when we consider that the germ of pneumonic fever is either favored in its growth or the air-cells are less able to withstand its attacks in the presence of a low temperature. On the whole, my experience and reflection satisfy me that this method of treatment offers no advantages in compensation for its evident inconveniences and possible dangers.

The sick-room should be used for no other purpose, and especially not for cooking. Sweeping and dusting should be peremptorily interdicted unless measures are taken to protect the patient from the dust.↕ The bed should not be so wide that the patient can not be readily approached from either side, and it should be placed near the center of the room. The mattress should be elastic, the pillows soft, the sheets woolen, and the covers light.

If it is thought desirable to influence the surface of the body by a temperature differing from that of the room in general, a

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* The following is a useful mixture for an adult:

| | |
|---|---|
| ℞ Ext. verat. virid. fl. | ♏xvj; |
| Pilocarpin. hydrochlor.,<br>Morph. hydrochlor., | āā gr. j; |
| Chloroform | ♏viij; |
| Syr. acaciæ | ℥ij. |

M., ft. sol. et sig.: A teaspoonful every one to four hours.

† "Am. Practitioner," Jan., 1871, p. 31.

‡ The floor should be carpeted, the windows draped, and the walls decorated.

# "Draughts of air are arrows of death," says the Eastern proverb.

‖ For further information see Cohen, "Med. News," Oct. 11, 1884; Cousins, "Lancet," July 19, 1884; Hassal, *ibid.*, May 5, 1883, and Aug. 16, 1884; Jacobi, "Diphtheria," New York, 1880; Pepper, "Trans. of the Am. Med. Assoc.," 1880; Robinson, "N. Y. Med. Jour.," July 18, 1885; Tyndale, "Med. Rec.," March 18, 1882; Van Bibber, "Jour. of the Am. Med. Assoc.," July 28, 1888, p. 116; Yeo, "Consumption," London, 1882.

△ "Berliner k. Wochenschrift," Oct. 2, 1871.

* "Peripneumon. cur. rat.," Venet., 1618.

† "Pneumonie," Leipzig, 1841, S. 387.

‡ "Am. Jour. of the Med. Sci.," vol. ii, p. 229, and vol. iii, p. 53.

# "Med. Rec.," Sept., 1881.

‖ "Reynolds's Syst. of Med.," Philadelphia, 1880, vol. ii, p. 213.

△ "St. Petersburger med. Wochenschr.," 1886, No. 24.

◊ "American Lancet," 1887.

↧ Eichberg, "Med. Rec.," Nov. 24, 1888.

↕ "A close, narrow, stifling room is exceedingly inconvenient to any person sick of a fever, as I have many times observed, especially among the lower part of tradesmen when two or three families, perhaps, live in a house together. Celsus's advice is never more proper—nay, necessary—in any kind of a fever than in a peripneumonia, '*in amplo conclavi tendendus æger.*' If such close rooms can not be avoided, they certainly should be frequently but prudently aired." See Huxham, "On Fevers," London, 1757, p. 199.

water-bed—supplied with hot and cold water cocks and a thermometer—will be found very convenient. Such beds are used in the fever wards of the Hamburger Krankenhaus and are highly praised.[*]

The patient's under-clothing should be of fine, soft wool, and so made that it can be changed, at proper intervals, with the minimum of exertion.

The nurse should be competent, quiet, and discreet, and her work should be of the best.

The surface of the body should be bathed one or more times daily, as indicated by the state of the skin, with warm or hot cologne (or other) water. If the baths are frequently employed, the skin should be very thinly anointed with some unctuous substance, as, *e. g.*, vaseline[†] or cacao-butter.[‡]

The subject of baths in this disease has engrossed much attention since the days of Hippocrates[#] and Thenison,[‖] and especially since the times of Currie[△] and Smith.[◊] The reduction of the fever has always been thought desirable, and inasmuch as this is effected with great promptitude by cold baths, these have found high favor at the hands of many physicians,[↧] while others consider them of doubtful utility[↕] or positively injurious.[ǂ] The wet-sheet pack, as being less opposed to the popular prejudices, has been oftener employed[**] than the full bath, but it is no less dangerous. Warm or hot sponge-baths,[††] by the radiation of heat which follows their employment, will produce a temporary and permanent antipyretic effect not inferior to the cold bath, and they are not objected to by patients. In my own practice I order the entire surface sponged every two or three hours, or oftener, or less frequently, according to the indications or wishes of the patient. The temperature of the water used is regulated by the sensations of the patient, and it is remarkable how hot it can be borne with comfort and satisfaction. Such baths will reduce the temperature, retard and strengthen the pulse, lessen or abolish delirium, and promote sleep, and all this without perturbation or danger of producing internal congestions.[*] It must be remembered that but little effect can follow the employment of baths in patients having a large amount of subcutaneous adipose tissue.

If the head aches or is very hot, the ice-cap[†] or cold coil may by applied, the consequent cooling of the head having a general as well as a local effect. Local thoracic applications are of great importance, and of these the sweat-jacket is the most useful, and it should be employed in every case.

This jacket is made by fitting a thick layer of carded wool to the chest, and covering with oiled silk or rubber cloth. It should open in each axillary line and upon the shoulders, so as to allow of ready access for examination, the application of stimulating or soothing oleaginous medicaments, etc. The retained perspiration and heat cause it to act as, but with none of the inconveniences of, a poultice, as employed by many[‡] and objected to by a few.[#]

Tossius a Serra[‖] lauds compresses of cold water applied to the affected side, and the practice is upheld by many modern authors.[△]

These cold applications have a very marked influence in reducing temperature, especially if they are extended over the præcordia[◊] and clavicle, but I agree with Loomis[↧] and others[↕] in condemning the practice as being both disagreeable and dangerous. The atomizer has been used in this direction to apply water,[ǂ] ether,[**] etc., for the same purpose, but the objections to this procedure are of equal force with those against the cold compresses.

Mental and physical rest[††] and quietude are very important factors in influencing a successful result, and every endeavor should be made to obtain them. From the beginning of the attack the patient should be confined to his bed, and on no account should he be moved long distances or over rough roads. When we consider that the hepatized lung is often so softened that it may be readily broken down by a slight pressure of the finger, or a not very powerful stream of water, we can appreciate the importance of keeping our patients perfectly quiet.*

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[*] See Page, "Med. Rec.," Feb. 26, 1886, p. 254.

[†] Nasser, "Thèse de Lyon," 1884.

[‡] Austin, "Med. Rec.," April 7, 1888, p. 399.

[#] "De acut. affec.," lib. ii.

[‖] Quoted by Kinsman, "Ohio Med. Recorder," June, 1880, p. 11.

[△] "Water in Fever," Liverpool, 1803.

[◊] "Med. and Surg. Mem.," Baltimore, 1831, p. 93.

[↧] Campagno, "Gaz. méd.," 1835, p. 11, et 1838, p. 107, et "Jour. de méd.," t. ii, p. 332; Chaumier, "Gaz. des hôp.," 1884, et "La France méd.," 1885; Finlay, "Med. Gaz.," Feb. 11, 1882, p. 69; Flint, "Med. News," Nov. 28, 1885, p. 605; Grisolle, "Traité de la pneumonie," Paris, 1841, p. 678; Haussert, "Thèse de Nancy," 1875; Holt, "Med. Rec.," April 7, 1888, p. 387; McMurtry, "Jour. of the Am. Med. Assoc.," April 26, 1884, p. 464; Niemeyer, *op. cit.;* Tauszky, "Cin. Clinic," Feb. 6, 1875, p. 61; Waller, "Inaug. Diss.," Erlangen, 1877, S. 7; Weber, "Path. Anat. d. Neugeb.," Bd. ii, S. 63; Yale, "N. Y. Med. Jour.," Nov., 1874, p. 449.

[↕] Smith, "Med. Rec.," Feb. 27, 1886, p. 238; Garland, "Pneumonia," Detroit, 1888, p. 85.

[ǂ] Juergensen, "Ziemssen's Handb.," Bd. v, S. 162; "Med. Rec.," Oct. 22, 1887, p. 543; Pepper, "Med. Gaz.," July 15, 1882, p. 328; Dujardin-Beaumetz, "Therap. Gaz.," 1888, p. 74.

[**] Caldwell, "Trans. of the Ill. Med. Soc.," 1880; Flint, "Med. News and Abst.," 1881, p. 284 et p. 518; Kaufmann u. DeBary, "Berliner k. Wochenschr.," 1888, S. 558; Sholl, "Med. and Surg. Rep.," vol. xlix, p. 621; Spencer, "Therap. Gaz.," April, 1884, p. 157.

[††] See Rewnow, "St. Petersburger med. Wochenschr.," 1876, No. 15.

[*] See Struver ("Med. News," April 29, 1882, p. 455) on the use of the full hot bath, which I can not think superior to the method advised.

[†] Lydston ("Jour. of the Am. Med. Assoc.," May 16, 1887, p. 427) applies the cold ice-bag to the nape.

[‡] Chambers, "Lancet," N. Y., 1862, vol. ii, p. 260; Forcheimer, "Cin. Lan. and Clin.," 1885; Grimshaw, "Dublin Jour. of Med. Sci.," May, 1875; Lewin, "Deutsche med. Wochenschr.," 1878, No. 13; Ripley, "Med. Rec.," Feb. 21, 1885, p. 217; Smith, *ibid.*, Feb., 1886, p. 238; Winters, *ibid.*, Feb. 21, 1885, p. 217.

[#] Peters, "Med. Rec.," Feb. 21, 1885, p. 217; *et al.*

[‖] *Op. cit.*

[△] Esmarch, Langenbeck's "Archiv," Bd. ii, S. 275; Green, "Quain's Dic. of Med.," N. Y., 1883, p. 890; Juergensen, *op. cit.*; Niemeyer, "Präger Vierteljahrschr.," Bd. iv, S. 121; Thompson, "N. Y. Med. Jour.," March, 1875, p. 291; Weber, *op. cit.*, Bd. ii, S. 63.

[◊] Grigorovich, "Practitioner," Aug., 1886; Lydston, "Jour. of the Am. Med. Assoc.," April 16, 1887, p. 427; Stephan, "St. Petersburger med. Wochenschr.," 1884.

[↧] "N. Y. Med. Jour.," March, 1875, p. 292.

[↕] Fox, "Med. Rec.," July 10, 1886, p. 51; Polk, *ibid.*, Oct. 11, 1884, p. 414.

[ǂ] Flascher, "Berliner k. Wochenschr.," March 31, 1884, S. 202; Preyer, "Jenaischen Sitzensb.," Feb. 22, 1884.

[**] Unna, "Berliner k. Wochenschr.," 1882, No. 20 u. 21.

[††] Putnam, "Med. World," 1888, p. 17; *et al.*

On this point I entertain positive opinions, based upon circumstances occurring under my own observation, and I believe the combined experience of the profession will confirm my conclusions.† Of my cases, twelve had been moved considerable distances, and of these, eight, or 66⅔ per cent., died, as set forth in the following table:

| No. | Sex. | Age. | D'ration. | Seat. | Result. | Remarks. |
|---|---|---|---|---|---|---|
| 28 | M. | 23 | 11 | L. u. l. | D. | Moved two miles, in sleigh, on second day. Very cold. |
| 32 | M. | 35 | 12 | L., entire. | D. | Moved fourteen miles, in sleigh, on second day. Very cold. |
| 35 | M. | 38 | 9 | L., entire. | D. | Moved five miles, in sleigh, on second day. Intensely cold. |
| 36 | F. | 51 | 10 | R. m. & l. l. | D. | Moved ten miles, in buggy, on second day. |
| 38 | M. | 20 | 6 | D. l. l. | D. | Rode eleven miles in farm-wagon, over rough roads, on second day. |
| 40 | M. | 30 | 5 | L., entire. | D. | Rode forty-four miles, in open wagon, on second and third days. |
| 112 | M. | 30 | 15 | L., entire. | D. | Rode fourteen miles in open wagon, in hot sun, on third day. |
| 130 | M. | 39 | 5 | R. l. l. | R. | Rode ten miles, in buggy, on third day. |
| 131 | M. | 53 | 10 | L. l. l. | R. | Rode twelve miles in open wagon, in hot sun, on fourth day. |
| 246 | M. | 60 | 45 | L. u. l. | R. | Rode four miles, in farm-wagon, on second day. |
| 304 | F. | 66 | 7 | L., entire. | D. | Rode six miles, in sleigh, on second day. Quite cold. |
| 336 | M. | 60 | 7 | L., entire. | R. | Walked about and worked first three days. |

The mortality of these cases is simply appalling, and almost equals that of some hospitals which admit patients who have been jolted over the rough streets of the city.

In case convalescence is protracted and resolution retarded, moving is not objectionable, and may be even advisable. Change of climate may be recommended in some of these cases, and I have seen examples of pneumonic fever in which dullness, tubular respiration, and cough, continuing long after resolution should have been fully completed, rapidly disappeared, with complete restoration of health, under the influence of climatic changes.‡

Intense thirst is a marked feature of many cases, and this is best relieved by plain, cool, fresh water.# Other drinks may be substituted to meet special indications or the desires of the patient.

Of these there may be mentioned toast, seltzer or aerated water, lemonade, gruels; sweet, sour, butter, or fermented milk; almond emulsion,‖ tea, coffee, etc. If lemonade is desired, its use should not be long continued, on account of its tendency to irritate the stomach. King△ and some others advise that the drinks be iced, but I prefer them less cold.

Unless the patient is very much debilitated by previous disease or cachexia, the diet, during the first few days, should be bland and spare. It is my custom to direct that the patient be not importuned to eat, and, inasmuch as there is almost always anorexia, the consequence is that he gets but little food. Later, or early in the case of weakly patients, easily digestible but nourishing food should be given, in such quantity and at such intervals as indicated. In exceptional cases the nourishment must be concentrated and stimulating, and its digestion assisted, perhaps, by papayotin, pepsin, pancreatin, etc. In general, the food should be presented in a liquid or semi-solid form. Rectal alimentation must be resorted to in those cases in which the stomach does not retain food.

In many cases the expectoration is so viscid that more or less of it adheres to the teeth and other parts of the mouth and throat, and this, together with unremoved catarrhal secretions and portions of food, causes a foulness which may be removed by washes and gargles. Solutions containing boric acid, thymol, lemon-juice, and glycerin are most appropriate. Glycerin should be applied to the tongue when it is dry and fissured.*

### Curative Treatment.

Beginning the treatment in the earliest stages of the disease, certain definite objects should be kept in view, and systematic and rational measures adopted for their attainment. The treatment must necessarily be largely symptomatic, but it should never be indefinite or hap-hazard.

One of the most important questions arising in the treatment of pneumonic fever is the possibility of an abortion of the disease, either by the spontaneous efforts of nature or the well-directed measures of art. I have elsewhere shown† that this occasionally occurs through the operation of natural laws, and the experience of every observant physician must afford examples wherein this much to be desired but rather unexpected result has been due, at least apparently, to the effect of the remedial measures employed.

The abortion of pneumonic fever is aknowledged by Flint,‡ Grimshaw,# Huss,‖ and others,△ but is denied by Holt◊ and Loomis.‡

After having put the patient to bed, as above recommended, diaphoresis, catharsis, and perhaps emesis should be brought about as quickly as possible. The pulmonary congestion should be lessened, the general circulatory and nervous excitement controlled, and the pain and dyspnœa relieved. This much having been accomplished, by a variety of means, a certain small number of cases will at once enter upon convalescence—the disease having been aborted.

If the surface of the body is cool and exsanguine, the

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* In the face of these facts, the proposition of Sturges ("Nat. Hist. Pneumonia," London, 1876, p. 222), that pneumonic patients be sent to the country for treatment, is strange, to say the least.

† See Lebert, "Berliner k. Wochenschr.," Sept. 4, 1871; Wells, "Cincinnati Lancet and Clinic," June 10, 1882, and "Jour. of the Am. Med. Assoc.," Dec. 19, 1885; Wyman, "Boston Med. and Surg. Jour.," Dec. 15, 1881, p. 569.

‡ See Coffin and Geddings, "Climate Cure," Charleston, 1870; Cummins, "Med. Rec.," Aug. 13, 1887, p. 187; "Jour. of the Am. Med. Assoc.," vol. v, pp. 180, 183, 523, and 701; Simons, "Am. Jour. of the Med. Sci.," January, 1872, p. 91; Thorowgood, "Climatic Treatment of Consumption."

# The fear of this boon of nature so often manifested by the laity has no foundation, either in theory or experience.

‖ Heiss, "Inaug. Dis.," Munich, 1857, S. 23.

△ "Jour. of the Am. Med. Assoc.," Aug. 14, 1886, p. 184.

* Cotter, "Indian Med. Gaz.," 1885.

† Wells, "Cincinnati Lancet and Clinic," Nov. 10, 1882.

‡ "Med. Rec.," July 14, 1877.

# "Dublin Jour. of Med. Sci.," May, 1875.

‖ "Lungenentzündung," Leipzig, 1861, S. 10.

△ Lebert, "Berliner k. Wochenschr.," Sept. 4, 1871; Pause, "Lungenentzündung," Leipzig, 1861, S. 74.

◊ "Med. Rec.," Feb. 7, 1885, p. 156.

‡ "Med. News," Feb. 7, 1885, p. 161.

circulation must be stimulated and equalized. For this purpose a hypodermatic injection of atropine and morphine may be given, the surface sponged with warm mustard-water, and the extremities enveloped in mustard packs. Sinapisms should be applied over the whole spine and the seat of pain.

Cloths dipped in hot mustard-water should be closely applied to the lower extremities, to above the knees, and to the forearms and hands, and these enveloped in an impermeable covering. This is a convenient and efficient substitute for the foot and hand bath.[*] Weber[†] recommends the full mustard bath, but this I believe to be unnecessary. In severe and exceptional cases, when a prompt and powerful effect is required, the hot mustard pack is to be preferred.[‡]

If reaction has been already established, or after this has been brought about by the means above indicated, pilocarpine may be administered hypodermatically and the patient be made to drink largely of sudorific teas, etc.

Owing to the tendency of pilocarpine to cause pulmonary œdema in certain states of the system, it should be employed with circumspection. It should not be given when the cutaneous circulation is not good, and, in order to avoid overaction, it is best to give small doses, frequently repeated, rather than a single large one. In the treatment of this disease pilocarpine is highly recommended[#] and as strongly condemned.[‖]

If the resulting sweating is very profuse, the surface must be dried with heated towels and the under-clothing changed, but this is not necessary if the skin is simply moistened. A gentle perspiration should be maintained throughout the whole course of the disease. If drugs are required for this purpose, minute doses of pilocarpine or ipecacuanha may be frequently given.

Small doses of ipecacuanha, in my experience, have always produced a very happy effect.[△] The skin and tongue have been kept moist and the bronchial secretions free.

In case free sweating is desired, without the use of pilocarpine or other internal medicine, it may be effected by the employment of the steam or hot-air bath.

Either of these can be given while the patient is in bed, by surrounding him with moist or dry heated articles, or by making a tent to envelop him below the neck, and generating steam or heat underneath, or conducting it thence from a distance. Subsequently the patient should be enveloped in warm woolen blankets.

Unless there is already diarrhœa, a cathartic[◊] should be at once administered, and as the agent I prefer calomel in the majority of cases. Usually the dose should be large enough to insure rapid and thorough action, and if this does not occur in from six to eight hours, a dose of castor-oil or an enema should be given. The bowels should be kept open throughout the attack.

Mercury, once so extensively employed in the treatment of this disease, has been to a great extent discarded, although recently there have been indications of a tendency to again use the remedy. Personally I am convinced that the early exhibition of a single large dose, or of a number of small or minute doses of calomel at short intervals, until the characteristic evacuations have been secured, is of the greatest value,[*] especially in infantile cases. A portion of the beneficial effects following the administration of this salt is probably due to the elimination or destruction of morbid matters. Whatever the mode of action, it is nevertheless true that after two or three free movements of the bowels have been obtained the patient usually perspires gently, passes urine more freely, is relieved of nervousness, and falls into a quiet sleep. Co-etaneously with these results the temperature is considerably reduced and there is a general amelioration of all the symptoms.

Many times, in severe cases, have I seen the tide of disease favorably turned apparently by the use of this agent, and in some instances life was probably saved by it.[†]

On May 19, 1880, pneumonic fever attacked a girl five years of age, the inflammation affecting both upper lobes. The fever ran high, with delirium, and she fought furiously and determinedly against the administration of food and medicines. Water she would occasionally venture to take, but all besides she obstinately refused, and when forcibly given they invariably produced emesis. All the symptoms gradually assumed so serious an aspect that death seemed certain, when, on the fourth day, calomel, in two-grain doses every two hours, was prescribed. After the fourth dose free bilious catharsis ensued and the patient fell into a gentle slumber. Copious sweating and diuresis followed, the fever declined, delirium vanished, the appetite returned, and convalescence was soon established.

(*To be continued.*)

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[*] It may be of interest to know that pediluvia have been thought to be dangerous. See Routh, "Brit. Assoc. Med. Jour.," June 8, 1855, p. 533.

[†] "Ohio Med. Recorder," June, 1878, p. 43.

[‡] Emerson, "Boston Med. and Surg. Jour.," 1877; Wells, "Cincinnati Lancet and Observer," August, 1877.

[#] Dominicis, "Med. Rec.," May 31, 1884; "Memorabilien," 1886, Heft 4; Mollière, "Jour. de méd.," Feb., 1886.

[‖] Smith, "Jour. of the Am. Med. Assoc.," Jan. 7, 1887, p. 30.

[△] See, also, "Jour. of the Am. Med. Assoc.," vol. v, p. 293; Lebert, "Berliner klin. Wochenschr.," Sept. 4, 1871; Testa, "Deutsche Med.-Zeitung," 1884.

[◊] They are objected to by Chambers, "Lancet," New York, 1862, vol. ii, p. 260; McBride, "Cin. Lancet and Observer," Aug., 1861, p. 480.

[*] Bartel u. Moritz, "St. Petersburger med. Wochenschr.," Jan. 16, 1886; Cammann, "Med. Rec.," Jan. 24, 1885, p. 99; Chambers, "Lancet," New York, 1862, vol. ii, p. 260; Claiborne, "Clin. Reports," Petersburg, 1873; Clark, "Lancet," 1843, p. 278; Clay, *ibid.*, Aug. 21, 1841; Cunning, "Trans. of the Dublin Col.," vol. v; Droux, "Bull. de thérap.," 1884; Duncan, "Med. Com.," 1783, vol. ix, p. 191; Fowler, "Med. Rec.," Nov. 19, 1887, p. 646; Gohee, "Prac. Tijdschr.," 1835; Graves, "Clin. Med.," Dublin, 1835; Hamilton, "On Purgatives," 1783; Hillier, "Diseases of Children," 1868, p. 32; Horn, "Bibliothek. Med.," Bd. lxxxiv, S. 398; Law, "Dublin Jour. of Med. Sci.," Jan., 1839; Leaming, "Dis. of the Heart and Lungs," New York, 1883; Lente, "Med. Rec.," Jan. 24, 1885, p. 100; Lithushly, "Med. World," May, 1886, p. 172; Luckie, "Am. Jour. of the Med. Sci.," vol. viii, p. 354; Maunsell, "Dis. of Children," p. 108; McManus, "Med. Rec.," Sept. 8, 1888, p. 260; Michaelis, "Hufeland's Jour.," Bd. iii, S. 185; Posodski, "Ieschenedjelanja klin. Gaz.," No. 30, 1885; Putnam-Jacobi, "Med. Rec.," Jan. 24, 1885, p. 100; Reil, "Clin. Med.," vol. ii, p. 93; Robinson, "Med. Rec.," Feb. 21, 1885, p. 204; Schiffner, "Heidelb. Med. Ann.," 1836, Bd. ii; Sevestres, "Med. and Surg. Rep.," 1887; Smith, "Med. Rec.," Oct. 20, 1888, p. 469; Todd, "London Med. Gaz.," April 6, 1849; Vogel, "Dis. of Children"; Waring, "Therapeutics," 1871; Waters, "Dis. of the Chest," 1868, p. 49; Watson, "Prac. of Phys.," Philadelphia, 1845, p. 584; Wittich, "Pneumonie," Erlangen, 1850.

[†] Clark ("Med. Gaz.," 1880) believes life to have been saved in an apparently hopeless case by three sixty-grain doses one day and twenty grains thrice daily afterward. The patient, however, lost all his teeth as a result of the treatment.

# HUMAN CALORIMETRY.

By ISAAC OTT, M. D.,
EASTON, PA.

The estimation of the amount of heat produced hourly by a man has been attempted by direct and indirect means. Scharling, in 1849, was the first to make experiments upon this point. His method was as follows: In a room whose temperature remained nearly constant he had constructed a completely closed box. When a man was introduced into the box the temperature of the box was higher than the temperature of the room, and the more it exceeded that of the room, the more heat was known to be produced. The differences between the temperature within the box and without gave a measure of the amount of heat produced. This measure was a relative, not an absolute determination. Scharling sought to determine the absolute amount by placing within the box a closed copper vessel of warm water and allowing it to cool, and then studied the differences between the temperatures of the water and the air. He arrived in this manner at the result that a man in half an hour gave off sixty-six calories, or, hourly, one hundred and thirty-two calories. By other experiments he sought to determine how much was given off from the lungs alone, and by the rest of the body. He brought the man into the box so that he breathed outside of it, and at another time permitted him to breathe within the box while his body was outside of it. He found that about 12 to 20 per cent. of the whole amount of heat given off was from the lungs. Vogel also constructed in the same way an air-calorimeter, and obtained one hundred calories per hour in a man weighing one hundred and fifty-four pounds. An air-calorimeter was made use of by him, the air being mixed by a special contrivance. He gauged the reliability of his apparatus by burning hydrogen. A bath whose temperature was a few degrees above that of the air was tried by Liebermeister, as a calorimeter, to determine the amount of heat given off by man. Certainly here no estimate could be made of the heat thrown off by the lungs. He also used the human body as a calorimeter, making the water in the beginning of the same temperature as that of the body. The leg of a man was used by Leyden to determine the amount of heat dissipation. D'Arsonval made an air-calorimeter of circular form for a man. The air was inclosed between two air-tight cylinders. The expansion of air from the heat given off by the man inside caused a manometer of mercury to register the rise, which corresponds to the amount of heat. Air was supplied to the man through the center of the roof of the instrument, and emerged through the base of the pedestal upon which the calorimeter rested. Langlois has recently constructed an air-calorimeter for children, and noted the amount of heat given off in health and in fever. He made a large number of observations. The air was inclosed between two air-tight copper shells. The expansion of the air was communicated to a siphon-manometer which registered the amount of heat. The instrument was so constructed that a lid covered in the child, a hole in the lid supplying the air. He found that a child weighing between 14·3 and 16·5 pounds gave off 4·300 calories per kilogramme. He also found that in chronic diseases with diminished temperature there was a diminution of heat production, while in fevers with increased temperature there was increased production of heat. As to indirect calorimetry, all the estimates rest upon the heat value of food and the oxidation changes of the ingesta and egesta. By this means Helmholtz calculated that a man averaged to the hour one hundred and thirteen calories, his weight being one hundred and seventy-eight pounds. According to the formula of Immerman, that would make ninety-two calories for a man weghing one hundred and thirty-one pounds. Ranke has made the average an hour one hundred calories for a man weighing about one hundred and fifty-four pounds. Liebermeister states that a water-calorimeter for a man would be too unwieldy for practical purposes. This would be true for the square-box form of calorimeter usually employed. If one adopts the form of cylinder, then the problem is much easier. D'Arsonval was the first to use this form. All air-calorimeters are attended with large errors, and no means so far known will diminish them. It is impossible to control the external temperature so that it shall be at the same level, and the least change in it will produce a change in the air contained in the calorimeter. With a water-calorimeter it is only large changes in external temperature which are appreciable. It is on this account that I attempted to make a water-calorimeter for man. It is composed of two cylinders of galvanized iron—one smaller than the other and inclosed within it (Fig. 1). The space in which the man lies upon a mattress is six feet long and two feet in diameter. Air is conveyed to him through the tube H, when it traverses the whole length of the apparatus and enters the hollow tube of lead at P, and finally emerges at B, having given off its heat to the water between the two cylinders. The meter, M, is run by the water-wheel, N, which aspirates the water through the whole apparatus by means of a hose, R, connecting it with the lead tube at B. The space between the cylinders is filled with about four hundred and eighty-four pounds of water. This water is kept thoroughly mixed by means of the agitator, O, which has two arms. These arms are pushing the water back and forth thirty times a minute, the motion being caused by water running the motor, X, which, by means of the wheel, Z, and the eccentric, drives the agitator. The thermometer, A, gives the temperature of the water, and, on account of the thorough mixing of the water by the agitator, gives the accurate record of the temperature of the water throughout the apparatus. The thermometer is pushed farther down than is represented in the figure; it usually lies aside of the tube H. The air-tube, B, also has a thermometer to denote the temperature of the air as it is heated up by the man. The thermometer at B is graduated into tenths, while the thermometer at A is also graduated into tenths, but they are so far apart that one one-hundredth of a degree Fahrenheit can be read. The temperature of the mouth was taken by a thermometer giving tenths, but I expect to use one so graduated that I can read fiftieths. The rectal temperature would have been preferable on account of accuracy. The bucket, I, receives the water from the motor, X, and so conveys it to the water-wheel, N, that it runs the meter as an aspirator. The meter is filled with water, and belongs to Voit's little respiration apparatus. The quantity of air aspirated an hour is five to six thousand litres, which is sufficient for respiratory purposes. The instrument is made air-tight by means of the door, K, which is lined at its outer edge with rubber. The whole apparatus is inclosed in over six inches of sawdust, the door, K, having against it a sawdust mattress. To test the effect of the temperature of the external air when aspirated through the instrument, I kept the temperature of the air twenty degrees for a whole day above the temperature of the water in the calorimeter. It was found that for every degree the air was above that of the water in the calorimeter the error was one one-thousandth of a degree Fahrenheit an hour. To determine the accuracy of the instrument, I placed a closed metal vessel containing sixty pounds of water in the instrument, and noted its elevated temperature at the beginning and end of the hour. The agitator was worked during the whole time. The error of the instrument was found to be about one per cent. The little calorimeter is made in the same manner. In my experiments I employed two healthy young men, Mr. A. and Mr. Z. Mr. A. was experimented upon during four days, Mr. Z. one day. In my experiments no apparatus was used to determine the moisture of the air expired, as heat becomes insensible in this manner. This defect will be overcome when I have the necessary help to carry out the experiment. At first sight it might occur that a man so surrounded by metal, although lying upon the mattress, would take a severe cold. Upon actual experimentation no such result ensued, but rather when the calorimeter was above 70° F.—too much warmth. The darkness of the interior of the instrument can be remedied if necessary by an Edison electric light of one candle-power, and its heat determined, or by a glass inserted in the door, K.

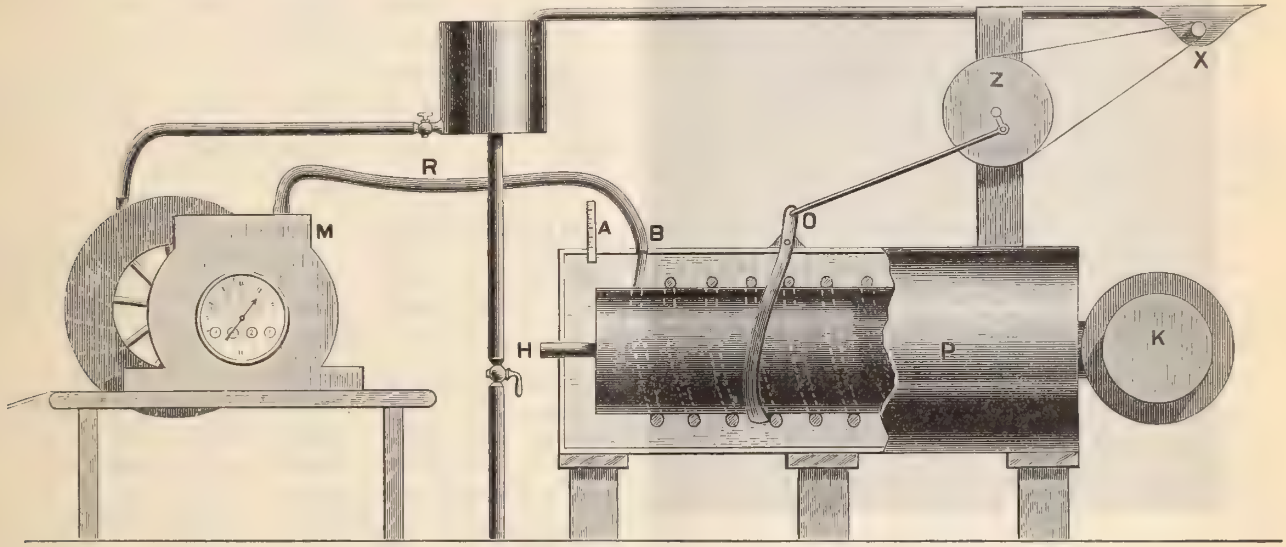

Fig. 1.—Transverse section in part.

As a result of twenty-nine hours' observation, a mean average of 272 heat units was obtained. That the number of heat units of heat production and heat dissipation is constantly fluctuating is seen in Fig. 2, which gives the amount for seven hours with the mouth temperature. This number is much less than that obtained by Helmholtz, who gives an average of 92 calories for a man weighing 131 pounds. Now, one calorie is equal to 3·96 British heat units, and 92 would make 324 heat units. The German heat unit is one gramme of water raised one degree C.; the French, a kilogramme, or 2·2 pounds, raised one degree C.; while the British heat unit is one pound of water raised one degree F. Now, 324 heat units is Helmholtz's average an hour for twenty-four hours, while 272 heat units is the average during the day, minus the calculation of moisture of breath. As the heat production is less during the night than during the day, it is readily seen that Helmholtz's calculation is too high.

It has been shown by Vierordt, Fredericque, and Langlois that at about 10 A. M. and 2 P. M. the highest heat production of the day is obtained, and my curves seem to bear this out. The average number of heat units must be considered in relation to the size of the man, for Liebermeister has pointed out that in proportion to the body weight the smaller individual has a greater surface for radiation of heat than the larger man. In consideration of this fact, Immerman has constructed a formula for the amount of calories in relation to body weight. It is also highly important to ascertain the exact heat production of several men on a full diet before any calculation can be made upon the amount of tissue change or heat production in fever. It is also seen in Fig. 2 that there is no relation between the temperature changes and the amount of heat production. Hence, in giving an antipyretic to a fever patient it is more necessary to know the amount of heat production than the temperature, supposing the antipyretic has a necessary relation to the heat production. I do not see any reason to prevent this instrument being installed within any hospital, or any difficulty or danger in subjecting any fever patient to a daily morning and evening estimate of his heat production. Calculations of this kind carried upon fever patients or others afflicted with disorders of nutrition would be of much value in every practical sense. For the sum of two hundred dollars the apparatus could be put in working order. The calorimeters can be obtained from Mr. E. B. Mack, of this city—the large one for about seventy-five dollars, the small one for twenty dollars. Appended are the experiments:

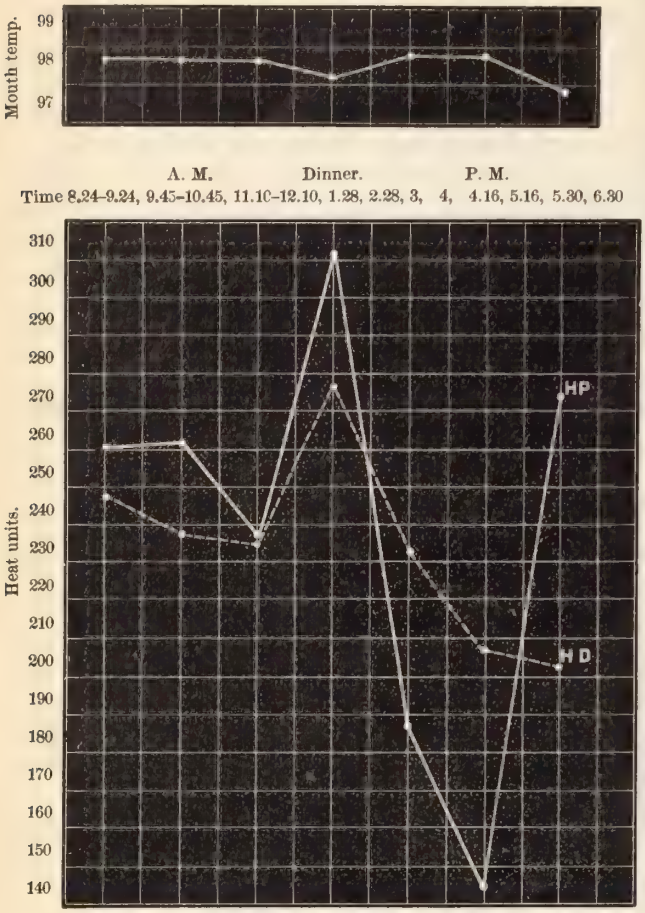

Fig. 2.—Experiment 4.

A. T. means temperature of air.
C. T. " " of calorimeter.
E. T. " " of exit tube.
M. T. " " of mouth.

I wish to express my thanks to Dr. Shick for the diagram of the instrument. All the thermometric data were corrected.

### Experiment 1.

Mr. A., aged 23; height, 5½ feet; weight, 134·24 pounds.
7 A. M., breakfast.
9.54 A. M., had been in calorimeter half an hour.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 10.17 A. M. | 63·25° | 64·21° | 64·0° | 99° | 5,744 |
| 11.17 | 67·25 | 64·71 | 64·5 | 98⅗ | |
| | | 5 | | | |

H. D. = 303·61; H. P. = 259·05.

12 M., dinner. Weight, 135·16 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 12.50 P. M. | 68·25° | 64·54° | 64·7° | 98° | 5,825 |
| 1.50 | 65·25 | 65·09 | 65·0 | 98 | |
| | | 55 | | | |

H. D. = 324·25 H. P. = 324·25.

Weight, 134·80 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 3.15 | 64·75° | 64·09° | 65·1° | 98⅗° | 5,543 |
| 4.15 | 65·75 | 65·49 | 65·5 | 98⅖ | |
| | | 4 | | | |

H. D. = 284·22; H. P. = 261·85.

Weight, 134·38 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 4.40 | 66·25° | 65·39° | 65·5° | 99° | 4,786 |
| 5.40 | 65·50 | 65·89 | 66·8 | 98⅘ | |
| | | 5 | | | |

H. D. = 304·43; H. P. = 282·13.

### Experiment 2.

Mr. A., weight, 132 pounds.
7.45 A. M., breakfast.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 8.31 A. M | 66·25° | 64·89° | 65·2° | 98° | 4,693 |
| 9.31 | 66·25 | 65·39 | 65·5 | 99 | |

H. D. = 305·35; H. P. = 414·91.

Weight, 131·50 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 9.50 | 64·25° | 65·39° | 65·5° | 99° | 5,415 |
| 10.50 | 66·25 | 65·79 | 66·0 | 99 | |

H. D. = 245·75; H. P. = 245·75.

12 M., dinner. Weight, 133·62 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 1.05 P. M. | 66·25° | 66·79° | 66·3° | 98⅗° | 4,847 |
| 2.05 | 66·75 | 66·24 | 66·5 | 98⅘ | |

H. D. = 274·15; H. P. = 295·92.

Weight, 132·75 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 2.30 P. M. | 66·25° | 66·15° | 66·5° | 99° | 4,910 |
| 3.30 | 66·25 | 66·55 | 66·8 | 99⅕ | |

H. D. = 245·27; H. P. = 267·29.

Weight, 132·38 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 4.00 | 67·25° | 66·49° | 66·8° | 99° | 4,670 |
| 5.00 | 67·25 | 66·99 | 67·1 | 99⅕ | |

H. D. = 304·18; H. P. = 326·15.

Weight, 132·36 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 5.20 | 68·25° | 66·89° | 67·1° | 98⅖° | 5,555 |
| 6.20 | 68·25 | 67·39 | 67·6 | 98⅕ | |

H. D. = 302·58; H. P. = 278·62.

### Experiment 3.

Mr. Z., aged 18; height, 5 ft. 6¼ in.; weight, 135·38 pounds.
7 A. M., breakfast.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 9.01 A. M. | 66·25° | 66·37° | 66·6° | 98⅗° | 5,380 |
| 10.01 | 66·25 | 68·84 | 67·6 | 98 | |

H. D. = 241·10; H. P. = 173·69.

Weight, 135·10 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 10.25 | 67·25° | 66·84° | 67·4° | 98⅘° | 6,390 |
| 11.25 | 67·25 | 67·29 | 68·1 | 98⅘ | |

H. D. = 229·31; H. P. = 229·31.

12 M., dinner. Weight, 134·86 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 12.54 P. M. | 69·25° | 67·09° | 67·8° | 99·0° | 5,230 |
| 1.54 | 69·25 | 67·675 | 68·6 | 98·8 | |

H. D. = 317·17; H. P. = 294·79.

Weight, 134·38 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 2.20 | 68·25° | 67·60° | 68·3° | $98\frac{4}{5}$° | 6,695 |
| 3.20 | 68·75 | 68·38 | 69·1 | $98\frac{2}{5}$ | |

H. D. = 400·62 ; H. P. = 356·62.

Weight, 134·32 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 3.42 | 68·25° | 68·19° | 68·7° | 98·4° | 5,430 |
| 4.42 | 69·25 | 68·69 | 69·5 | 98·3 | |

H. D. = 255·49 ; H. P. = 244·80.

Weight, 134·24 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 5.00 | 70·25° | 68·64° | 69·2° | 98·3° | 6,380 |
| 6.00 | 69·25 | 69·10 | 69·9 | 98·1 | |

H. D. = 279·90 ; H. P. = 256·63.

### Experiment 4.

Mr. A., weight, 135·40 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Liters of air. |
|---|---|---|---|---|---|
| 8.24 | 65·25° | 67·70° | 67·4° | $98\frac{3}{5}$° | 5,365 |
| 9.24 | 66·25 | 68·18 | 68·5 | 98·7 | |

H. D. = 249·92 ; H. P. = 261·16.

Weight, 135·20 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 9.45 | 67·25° | 68·10° | 68·4° | $98\frac{3}{5}$° | 5,640 |
| 10.45 | 68·25 | 68·64 | 69·0 | $98\frac{4}{5}$ | |

H. D. = 238·83 ; H. P. = 263·27.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 11.10 | 68·25° | 68·44° | 68·7° | $98\frac{3}{5}$° | 5,890 |
| 12.10 | 70·25 | 68·91 | 67·4 | $98\frac{3}{5}$ | |

H. D. = 238·47 ; H. P. = 238·47.

12.30, dinner. Weight, 136·46 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 1.28 | 68·50° | 68·710° | 68·8° | $98\frac{2}{5}$° | 5,557 |
| 2.28 | 68·25 | 69·245 | 69·8 | $98\frac{1}{5}$ | |

H. D. = 276·97 ; H. P. = 312·47.

Weight, 136·20 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 3.00 | 70·75° | 69·19° | 69·5° | $98\frac{1}{5}$° | 7,455 |
| 4.00 | 68·25 | 69·64 | 70·3 | $98\frac{2}{5}$ | |

H. D. = 232·68 ; H. P. = 187·56.

Weight, 136·6 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 4.16 | 68·75° | 69·59° | 70·0° | $98\frac{1}{5}$° | 6,440 |
| 5.16 | 69·75 | 69·99 | 70·6 | $98\frac{1}{5}$ | |

H. D. = 208·48 ; H. P. = 140·46.

Weight, 136·4 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 5.30 | 69·75° | 69·89° | 70·3° | $97\frac{4}{5}$° | 8,145 |
| 6.30 | 72·25 | 70·29 | 70·8 | $98\frac{1}{10}$ | |

H. D. = 205·35 ; H. P. = 273·27.

### Experiment 5.

Mr. A., weight, 133·8 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 8.20 A. M. | 68·25° | 68·60° | 68·4° | $98\frac{3}{5}$° | 5,555 |
| 9.20 | 67·25 | 68·915 | 69·0 | 99 | |

H. D. = 161·39 ; H. P. = 205·81.

Weight, 133 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 9.45 | 70·25° | 68·79° | 68·7° | $98\frac{4}{5}$° | 7,365 |
| 10.45 | 70·25 | 69·39 | 70·0 | $98\frac{4}{5}$ | |

H. D. = 303·57 ; H. P. = 303·57.

Weight, 132·74 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 11.15 | 70·25° | 69·09° | 69·3° | $98\frac{2}{5}$° | 6,565 |
| 12.15 | 69·75 | 69·615 | 70·0 | $98\frac{4}{5}$ | |

H. D. = 267·83 ; H. P. = 311·86.

12 M., dinner. Weight, 133·42 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 1.30 | 70·25° | 70·504° | 69·5° | $98\frac{3}{5}$° | 6,225 |
| 2.30 | 71·25 | 71·029 | 70·5 | $98\frac{4}{5}$ | |

H. D. = 268·42 ; H. P. = 296·53.

Weight, 133·40 pounds.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 3.00 | 70·25° | 69·74° | 70·0° | $98\frac{4}{5}$° | 5,265 |
| 4.00 | 70·25 | 70·19 | 70·7 | $98\frac{4}{5}$ | |

H. D. = 230·02 ; H. P. = 230·02.

| Time. | A. T. | C. T. | E. T. | M. T. | Litres of air. |
|---|---|---|---|---|---|
| 4.30 | 70·25° | 69·99° | 70·1° | $97\frac{4}{5}$° | 5,660 |
| 5.30 | 70·25 | 70·49 | 70·75 | $98\frac{3}{5}$ | |

H. D. = 257·21 ; H. P. = 344·27.

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# TENDON RESECTION AND TENDON CONTRACTION FOR SHORTENING THE RECTI MUSCLES.

By GEORGE T. STEVENS, M. D.

Since, in 1845, Guérin first made advancement of a rectus muscle with the view of re-establishing its action by virtue of the new position, many modifications of his operation have been made, depending partly upon the progress made in the management of primary strabismus and partly upon the individuality of the surgeons who have proposed the various modifications. Principal among these newer methods are those of Critchett and von Graefe, but practical improvements upon the original methods and of those of Critchett and Graefe have been suggested and practiced by Weber, Agnew, Wecker and Landolt, Prince, and others.

In all these modifications the purpose has been, by advancing the insertion of the tendon nearer to the cornea, to effect a re-enforcement of its action in rotating the cornea toward the inner or outer canthus.

It is probable that nearly every surgeon who has had any considerable experience in these operations has learned that each of the methods which have from time to time been in vogue promises much better than it fulfills, and that failure in producing any exact results is the rule rather than the exception.

There are certainly important objections to the operation for advancement in either of its forms and at every stage of the proceeding. The extensive wound of the conjunctiva, the dissection of it to the border of the cornea, the enormous extent of tissues involved in the sutures, and especially the wedging of the tendon far in advance of its normal position, are all undesirable features of these operations. But beyond these details of procedure, which leave unpleasant reminders after healing has taken place, there is the necessary uncertainty of the result which renders a simpler operation, and one which can be at least approximately graduated, much to be desired.

The operations for *tendon resection* and *tendon contraction* present many advantages over the operation for advancement. During the past four years I have made many operations for the purpose of shortening the tendons of the recti by the methods about to be described, and the experience thus gained appears to be sufficiently extended to enable me to form a judgment respecting these methods.

Tendon shortening is available and often advantageous in primary as well as secondary strabismus, and in the lesser anomalous tendencies of heterophoria. For cases in which a slight effect is desired—for example, where it is proposed to effect a correction of two or three degrees—shortening by tendon contraction is sufficient. If, however, more considerable effects, such as in cases of strabismus or in high degrees of heterophoria, are to be obtained, tendon resection is required.

Advancements were formerly made only in cases of overcorrection after operations for strabismus or in cases of paralysis. More lately they have been, to a limited extent, made auxiliary to primary operations. In 1874 Dr. J. F. Noyes, of Detroit, reported a method for shortening the recti by complete tenotomy and lapping the muscular under the scleral end of the tendon. If necessary, a portion of tendon was to be cut out. Several sutures were used and no tenotomy of the opposing muscle was made.

In making tendon resection the proceeding which I have adopted is as follows:

With the narrow-pointed scissors used for subconjunctival tenotomy, and which are figured in connection with this article, an opening is made in the conjunctiva less than one millimetre in extent and about a millimetre posterior to the insertion of the tendon and exactly over its central portion. The opening should be the smallest possible—not more than sufficient to expose a small point of the surface of the tendon. The fine tenotomy forceps * is then introduced, its branches closed through this small opening and forced slightly backward, when, by removing the pressure of the fingers, the expansion of the blades pressing against the elastic tissues surrounding them causes the opening to expand, thus temporarily enlarging the wound and permitting the operator to grasp in the teeth of the forceps a small fold of the tendon slightly removed from its insertion. With much care the tendon is divided transversely, a little in front of the insertion, carrying the division each way as in the case of graduated tenotomy until the border of the tendon is reached and which is to be preserved.

With the fine traction hook (Fig. 6) the central portion of the proximal lip of the tendon opening is then drawn forward through the opening in the conjunctiva, which, without tearing, expands to allow of this procedure. While the tendon is thus held forward the small plow or divulsor is insinuated and pushed backward over all the parts of the tendon behind the wound, effectually releasing the tendon from any connection with the surrounding tissues.

This separation of the tendon will permit it to be drawn forward without causing so much of a fold of the conjunctiva as is otherwise likely to result if the tendon is much shortened. The tendon being now drawn forward to an extent equal to the amount of resection desired (and the resection must be made to conform to the extent of shortening proposed), either by making traction by means of the traction hook or by the fine fixation forceps which may be made to replace the hook, and using as much care as possible not to enlarge the conjunctival wound, a cut is made from each extremity of the transverse incision backward so that the two nearly meet just behind the insertion of the forceps. By this means a triangular piece of tendon is very nearly removed. Making traction now with the fixation forceps which holds the bridge at the apex of the triangle, the needle, armed with No. 000000 silk thread, is passed through just behind the apex, when the resection of the triangle is completed. The needle is next carried through the corneal extremity of the tendon and the extreme border of the conjunctival wound, including not to exceed one millimetre, when the suture is to be tightened and secured. The object of the fixation forceps is to maintain a hold upon the exact central portion of the tendon. Should resection be made without the precaution of thus securing this part, it would be doubtful whether the exact angle of the resected part could be readily found afterward. Approximately this may be done, if the fixation forceps have not been used, or if the hold has been lost, by carrying the slender hook beneath the tendon after the resection is made, observing special care as to its direction and thus drawing the angle forward. It is much better, however, to secure this point from the beginning, when it is possible to be very precise.

During the different stages of the operation the conjunctival wound, originally very small, is in danger of being enlarged by tearing or cutting, but this should, as far as possible, be avoided. The tissues are susceptible of a considerable degree of stretching, and what may during the operation appear like an opening of two or three millimetres will after a few minutes contract to a small point. The amount of tissue to be removed in the resection must of course, as has already been intimated, be graduated by the effect desired. The surgeon should determine beforehand the extent to which it is desirable to change the relative position of the eye. The distance from the base to the apex of the resected triangle should correspond nearly to the extent to which the eye is to be rotated.

Tendon resection is available when considerable change in the relative position of the eye is to be made. For slight or great moderate changes, tendon contraction may be practiced.

In making tendon contraction, the conjunctival opening is made as already described. Then the tendon is drawn slightly forward through the opening and is cut transversely toward each border. The small traction hook shown below is then introduced beneath the tendon which it draws forward. The needle is carried through the tendon as far back as necessary. If it is carried so far back as to leave in front of it any considerable extent of the tendon, this may be shaved off by the scissors so as to leave a very thin border. The needle is then carried through the anterior lip of the tendon, as has already been directed, and the suture secured as before. Before finally tying in either case the patient should be tested in respect to the result, when, if it is excessive, the suture may be loosened before finally tying, and, if insufficient, the operation can be carried further.

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* See figure.

No extensive cicatrization occurs after such operations. The tendon is not bound either to the sclera or the conjunctiva. Union takes place by first intention, hence there is very slight prospect of losing the result of the operation, although, owing to the elasticity of the parts included in the suture, an excess of effect should be temporarily induced. Owing to the extreme fineness of the thread, no inflammation is set up about it. It may be removed after five or six days, or it cuts its way out without assistance. A few weeks after such an operation only minute traces of it can be discovered. No unsightly scar and no adhesions are left to remind the patient or the surgeon that an operation has been done.

Two great disadvantages following the standard operations for strabismus are the recession of the caruncle and the loss of ability to bring the cornea of the eye operated on sufficiently toward the canthus corresponding to the severed tendon. These defects may be avoided by the adoption of two measures: 1. The tenotomy is to be made by the method which I have described[*] for heterophoria, except that the division of the tendon is made more complete. Little, if any, recession of the caruncle succeeds to such an operation, as the wound of the conjunctiva is reduced to the smallest extent, and the tissues are not separated from the sclera as in the ordinary operation. 2. The tenotomy should not be carried to the extent of so complete a setting back of the tendon as to alter the position of the caruncle or to seriously interfere with the rotating action of the muscle. After a moderate relaxation of the shortened tendon by such a guarded tenotomy, tendon resection of the opposing muscle can be made to supplement the effect, thus maintaining a more uniform tension of the two opposing muscles than could be preserved after a greater setting back of the tendon or after an advancement without tenotomy.

In most cases of the ordinary converging or diverging strabismus, therefore, tendon resection can be advantageously combined with moderate tenotomy on one or both eyes. I have found that, in a certain proportion of cases of heterophoria in which the balance appears to be lost through the feeble action of one set of muscles rather than through the immoderate contraction of their opponents, tendon resection preserves more perfectly the functions of the recti muscles than does tenotomy. In high grades of esophoria or exophoria, also, tendon resection is advantageously combined with tenotomy. In such cases we make a slight shortening of each of the weaker muscles, followed by tenotomy of each of the opposing tendons. There is less objection to so many operations than to a single excessive tenotomy.

For the performance of tenotomies or of tendon resections in the manner which I have described, certain forms of instruments are necessary and certain others desirable. It will therefore be in place here to refer to the various instruments which I find useful in these operations. They are such as have resulted from the necessities or conveniences of the operations during the various stages of their evolution.

It is with much satisfaction that I acknowledge the practical assistance which I have received from time to time from Mr. F. A. Stohlmann, of Messrs. Tiemann & Co., who has brought to the work his great experience and a sincere desire to render every aid in perfecting the instruments.

Each instrument is so constructed as to admit of perfect cleanliness, those having crossed blades being provided with Charrière's lock; they can, therefore, all be kept easily and perfectly aseptic.

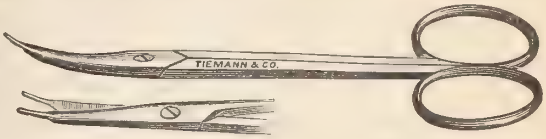

FIG. 1.

The scissors (Fig. 1), which have been described[*] heretofore, are now improved by being furnished with the lock-joint, thus allowing the two blades to be separated from each other. The lock also insures the perfection of the relations of the two blades to each other—a condition which is readily lost when the blades are united by a screw. Continued experience with the scissors convinces me of their great value. Their cutting properties are perfect, they are strong enough to overcome every resistance, while their points are so very slender that they work beneath the conjunctiva through an extremely small opening.

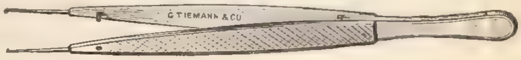

FIG. 2.

The forceps (Figs. 2 and 3) and small tenotomy hook (Fig. 4) have also been described elsewhere,[†] and are both found to serve their purpose perfectly. The delicacy of the hook enables the operator to insert it beneath the tendon at the extremities of the section already made, with little, if any, disturbance of surrounding tissues.

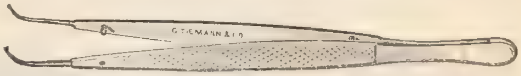

FIG. 3.

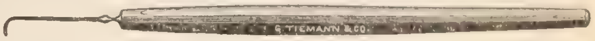

FIG. 4.

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[*] "Archives of Ophthalmology," vol. xvi, No. 2, June, 1887, and vol. xvii, No. 2, June, 1888.

[*] "Archives of Ophthalmology," June, 1888.

[†] *Ibid.*, June, 1887.

I have found it necessary to have constructed for use in tendon resection a fixation forceps (Fig. 5), similar in its general form and in delicacy to the tenotomy forceps. This instrument has proved of great service in the perfection of the operation. A very delicate traction hook (Fig. 6) has also proved almost essential in operations for tendon contraction and for tendon resection. The hook is of about the same size and delicacy as Tyrell's iris hook.

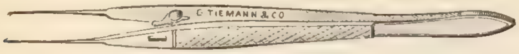

FIG. 5.

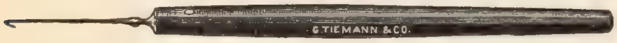

FIG. 6.

The hook, however, is in the form of a straight barb, bending backward at an angle of 45° from the very slender shaft; the barb is very fine and sharp, and is perfectly calculated to catch and hold the cut border of the tendon without becoming entangled in it, as the Tyrell hook is very likely to do. The little plow or divulsor used for separating the tendon from its surroundings is a triangular lance-blade, at the extremity of which is an olive or button which serves as a leader. The blade is about a millimetre broad at its widest part (Fig. 7). Messrs. Tiemann & Co. have constructed for me a needle-holder (Fig. 8), very light and convenient in operations about the eye. Its handle, in size and form, corresponds to that of the majority of the instruments used in eye surgery, and the jaws, while slender, are so short as to give them unusual strength. The lever fastens by Tiemann's automatic catch. Since the introduction of cocaine there is but little and usually no pain in operations upon the eye muscles; but I have long observed that in operations in which a needle is used a thrill of pain is sent through the frame of any patient when the ordinary needle-holder is made to release its hold upon the needle. The snap of the release is invariably described as a most severe shock. In the instrument here figured this violent snap is avoided. Like the tenotomy scissors, the blades of the needle-holder are readily detachable, being united by the Charrière lock, hence they can be separated with ease for cleansing.

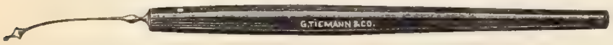

FIG. 7.

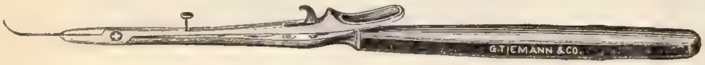

FIG. 8.

So many oculists have already presented designs for eye specula that I hesitate to add another to the list. I yield, however, to the suggestion of others in describing the instrument which I have used for two years past (Fig. 9). It is a modification of old forms, and its merit is rather in its simplicity and convenience than in its novelty. The spring itself resembles some of the oldest forms of eye specula, and is quite flexible, as I find that a stiff spring is not required since the introduction of cocaine. Consequently the spring is quite light, being made of silver-coated steel, and each branch is terminated by a thin plate of tortoise-shell so folded upon itself as to hold the border of the lid firmly, and to effectually remove the lashes from the field of operation. The even pressure of the tortoise-shell is far less disagreeable to the patient than the pressure caused by the stiff bent wires almost universal in the blades of eye specula. About the middle of each branch a little cup-shaped finger-piece is attached as a holder. The speculum is light, easy to the patient, perfectly simple in construction, and therefore has the merit of cheapness.

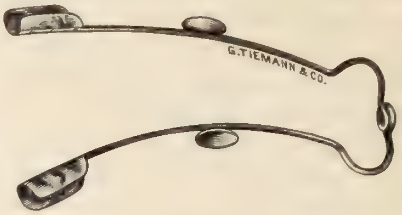

FIG. 9.

In operations upon the superior muscles the common eyelid retractor is used; Messrs. Tiemann have constructed for me one considerably smaller than those commonly used, the blade being of tortoise-shell (Fig. 10).

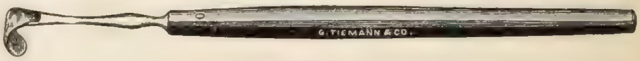

FIG. 10.

All these instruments, together with fine needles and a quantity of No. 000000 silk, are put up by Messrs. Tiemann & Co. in a very neat case.

33 WEST THIRTY-THIRD STREET, NEW YORK.

## THE CURABILITY OF PULMONARY PHTHISIS.

BY GEORGE A. EVANS, M. D.,
BROOKLYN.

ALTHOUGH my only purpose in this short paper is to present evidence to show that pulmonary phthisis is a curable disease, and to stimulate a more hopeful view regarding its prognosis, I commence by stating to what conditions I apply the word phthisis, believing that by so doing I shall be better understood, for this term seems to have different meanings to different medical men.

Two varieties of tubercular phthisis are generally recognized—the *acute* and the *chronic*. The former, Bayle's miliary tuberculosis or acute miliary tuberculosis, when it forms the only anatomical lesion, is undoubtedly an infectious disease. It is rapid in its progress. It begins with and produces the true histological miliary tubercle in great numbers throughout the lungs, and undergoes rapid caseous metamorphosis. We have strong evidence for believing that it is analogous to the bacillary disease which may be so readily set up in rabbits, guinea-pigs, etc., by inoculating them with cultivations of the tubercle bacillus.

Under the head of *chronic* phthisis we have the following subvarieties:

Chronic tubercular phthisis is, as its name indicates, relatively slow in its progress; it is characterized by the development of numerous hard tuberculous nodules of various sizes, which are distributed more or less throughout the lung.

Catarrhal phthisis, or tubercular lobular pneumonia, or the chronic broncho-pneumonia, chronic lobular pneumonia, or cheesy pneumonia of Virchow, is a variety of chronic phthisis which, it is believed, develops from or is intimately associated with bronchitis, pleurisy, or pneumonia, and in which the development of tubercle may or may not play an important part. It occurs most frequently in strumous subjects.

Fibroid phthisis, or interstitial pneumonia, is a form of chronic phthisis in which the development of fibrous tissue, either in dense masses or as a diffused infiltration, is a prominent feature. This adventitious tissue rapidly contracts and constricts the tissue in which it is developed, and thereby obliterates the air-vesicles and bronchioles, and impedes the circulation of blood through the lungs.

Pneumonokoniosis, anthracosis, siderosis, chalicosis, etc., or "*dust phthisis*," is a form of fibroid phthisis or interstitial pneumonia the result of direct mechanical irritation of the lungs, and is due to the inhalation of particles of fine mineral or insoluble dust.

It is impossible to define sharply these varieties of chronic phthisis from one another; they all frequently occur in the lungs of the same individual at the same time, and they frequently follow one another at different periods of the affection.

When we speak of pulmonary phthisis in a general way, we refer to a condition which consists at first of a consolidation of lung substance, beginning almost always at the apex, due chiefly to a proliferation or increase of connective-tissue elements, with a subsequent contraction of the same sufficient to compromise their proper nutrition, resulting in tissue necrosis or caseation, putrefactive decomposition, septic absorption, the formation of cavities or of dense fibrous tissue.

All these changes may occur in the same individual in different parts of the lungs at the same time, or they may follow one another at different periods of the disease. They possess infective powers, and are disposed to spread to the contiguous tissues. They are frequently found in association with the tubercle bacillus and with tubercle, but these may play, however, only a secondary part. The disease may be purely local in its origin, or it may be constitutional. Predisposition to its development may be acquired or it may be inherited. Carefully conducted experiments give positive proof of the communicability of phthisis; clinical experience, however, does not. That so much is said and written from day to day concerning pulmonary phthisis, that so many different opinions exist among prominent observers regarding its ætiology and prognosis, and that so many widely diverse and new methods of treatment are being constantly brought to bear to arrest its progress or mitigate its ravages, are in themselves circumstances which can not fail to impress us that the subject is beset with difficulties on every hand, and that much remains to be made clear to our understanding. These difficulties will not be brushed away by the power of any sudden enthusiasm. They must be overcome by patient study and earnest work. Medical science should never confess to herself that any disease is incurable, no matter how much evidence there may be in favor of that contention, for such a confession leads to despair—a condition which, on the part of the patient, operates to prevent his co-operation with the physician, who in his turn is discouraged from all effort in behalf of his patient by the gloomy prognosis which he entertains and which he constantly keeps in view. There are at present many curable pathological conditions which in former years were regarded as incurable. Failure in the past should constitute the strongest incentive to greater efforts for success in the future. Under such circumstances there is much merit in failure, while there is certainly none in despair.

Dickens describes in his story of "Nicholas Nickleby" the terrible ravages and "certain termination" of consumption as the medical science of his time and his own observations taught him to regard them. His description represents, I regret to say, a picture which many of our profession of to-day subscribe to, and exhibit for the education and contemplation of the laity. It runs as follows:

> "There is a dread disease which so prepares its victims, as it were, for death; which so refines it of its grosser aspect and throws around familiar looks unearthly indications of the coming change; a dread disease in which the struggle between soul and body is so gradual, quiet, and solemn, and the result so sure, that day by day, and grain by grain, the mortal part wastes and withers away, so that the spirit grows light and sanguine with its lightening load, and, feeling immortality at hand, deems it but a new term of mortal life; a disease in which death and life are so strangely blended that death takes the glow and hue of life, and life the gaunt and grizzly form of death; a disease which medicine never cured, wealth never warded off, or poverty could boast exemption from; which sometimes moves in giant strides and sometimes at a tardy, sluggish pace, but, slow or quick, is ever sure and certain."

It may be claimed by some that Dickens painted this picture in deference to a style in fiction for which he was distinguished, or perhaps in order to stimulate morbid sentiment for dramatic effect. However this may be, we may feel certain of the source whence his inspiration came when we consider the gloomy prognosis which many of the medical men of his time entertained regarding pulmonary consumption.

Even so distinguished a writer on medical topics as Graves,* of Dublin, who, as I will show later on, held hopeful views regarding the prognosis in pulmonary phthisis, frequently paused in his scientific consideration of the subject to contemplate it from a sentimental standpoint. I quote from one of his lectures as follows:

> "Phthisis is a disease which, more than any other, demands the sympathy and excites the commiseration of the friends and acquaintances of the sufferers. Some diseases are borne in silence and concealment, because their phenomena are calculated

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* "Clinical Medicine."

to excite disgust; to others, the result of vicious courses, the stigma of disgrace is attached; unsightly ravages of the human frame, or the wreck of the mental faculties, inspire us with horror rather than with sympathy; but consumption, neither effacing the lines of personal beauty nor damaging the intellectual functions, tends to exalt the moral habits and develop the amiable qualities of the patient, and from its melancholy character gives to our feelings of commiseration a more than ordinary intensity. Most persons die of consumption in the bloom of youth, at a period when the hopes are brightest and the capacities for enjoying life are in full vigor and maturity. Most of its victims are remarkable for the early unfolding and brilliancy of their mental accomplishments, and many a family has to regret that by tubercular phthisis some of the fairest and best of its members have been hurried to an early grave."

In the discussion of a paper on the "Relations of the Bacillus Tuberculosis to Pulmonary Phthisis," which was read by Dr. I. H. Platt before the Medical Society of the County of Kings, June 19, 1888, a physician of considerable ability and experience stated that he had never had a patient recover from pulmonary phthisis and that he did not believe in the curability of that affection. The opinion was based on quite a large experience, and, although his conclusion may be logical in a certain sense, it is nevertheless wrong as well as unfortunate, as I hope to be able to show. While it is true that a great many medical men still entertain unfavorable views regarding the ability of our profession to cope successfully with the morbid processes which characterize pulmonary consumption, it is, nevertheless, a fact that we find among those who hold such opinions very few who have attained eminence in the profession. These pessimistic views are, in many instances, I have no doubt, the result of prejudice, founded in a certain measure on past ignorance, present indifference, or superficial investigation. And it is a matter of common observation that while many of those who hold them make no attempt to improve our means for arresting the ravages of consumption, they frequently put themselves to considerable inconvenience to discourage in others earnest effort to that end.

Ortmann referred to this state of affairs, in his description of "Brehmer's Sanatorium for Consumptives at Göbersdorf," as follows:

> "Up to the middle of the present century the scientific world, and of course the public also, were, almost without exception, in agreement as to the incurability of this disease, and the well-known facts seemed so completely to confirm these views that the incurable nature of pulmonary consumption had become a fixed tenet of the scientific creed. Of course the treatment of the malady was in accordance with this theory. . . . It was proclaimed in the lecture-rooms of the medical colleges that phthisis must of necessity end fatally, and it could accordingly be only a *subject for ridicule** were a practitioner to presume to speak of the curability of the dreaded malady by an entirely new method of treatment."

We can have no better evidence of the positive advance of medical science than that which comes out on a comparison of the gloomy views of the past with those that are held by eminent observers of the present day regarding the prognosis in pulmonary phthisis.

Weber says:*

> "That any one can hold the opinion that phthisis is incurable is almost incredible, as not only older medical authors, but many of the most experienced living men, have pronounced distinctly hopeful views. The words of Carswell should be sufficient: 'Pathological anatomy,' he says, 'has perhaps never afforded more conclusive evidence in proof of the curability of a disease than it has in that of tubercular phthisis.'"

Hippocrates, whose science and skill, we are informed, made the age in which he lived memorable, believed phthisis to be curable when it occurred as a result of purulent infiltration of the lungs.

Aretæus Cappadox (50 A. D.) informs us that in early times sea-air was recommended as a *cure* for consumption.

Celsus believed that long sea voyages, and also fumigations from pine cones, would *cure* consumption.

Galen considered that recovery from consumption was by no means infrequent among those who resorted to dry-air localities.

The writings of Willis† go to show his belief in the curability of consumption. Laennec gave the histories in a number of cases in which the cicatrization of cavities had taken place.

Graves,‡ addressing his pupils, said:

> "Let me now impress on you strongly the necessity of never abandoning cases of consumption as hopeless, for I have known several apparently desperate cases cured, even when puriform matter had been expectorated and cavities existed. Many remarkable cases of phthisis have occurred in my own practice and the practice of Dr. Stokes, and in which the patients recovered either temporarily or permanently in a manner quite unforeseen and unexpected."

Rokitansky# and Schüller have reported that recovery from pulmonary phthisis has frequently occurred in cases under their observation.

Gerhard,‖ writing on this subject in 1850, says: "We have direct proof of the curability of tubercle, that is, evidence derived from pathological examination." He cites a striking illustration in the case of Dr. Parish, of Philadelphia, who suffered from pulmonary consumption in early life, recovered vigorous health, lived to the age of sixty, and finally died of a disease of the kidneys. In his case there was undoubted evidence not merely of the previous existence of phthisis, but of its absolute cure, for at the apex of each lung were found cicatrices and deposits of calcareous matter, proving that some portion of the tuberculous matter had passed to the state of softening, and that another portion had become dry and indurated.

Clark△ and Bennett have recorded their testimony in favor of spontaneous recovery from tubercular phthisis, and the practical result of their observations shows that if the

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* Italics are mine.—G. A. E.

* "Croonian Lectures," 1885.

† Waldenburg, "Die Tuberculose u. s. w., nach historischen und experimentellen Studien," Berlin, 1869.

‡ "Clinical Medicine."

# "Respiratory Therapeutics," Oertel in von Ziemssen's "Handbook of General Therapeutics," vol. iii.

‖ "Gerhard on the Chest."

△ Aitken's "Science and Practice of Medicine," *loc. cit.*

*further* growth of tubercle can be arrested, the masses already existing may silently retrograde, become absorbed, or diminished in size, and the part cicatrize, or it will remain latent as a cretaceous mass in the lung.

Dr. James Henry Bennett, as quoted by Denison,* tells us that in the lungs of many women in the dead-room of the Salpêtrière, a large asylum hospital in Paris, he found evidences which proved undeniably that they had been consumptive at some antecedent period of their life, but had died at last of other disease.

Vibert,† who is connected with the Paris Morgue, has reported that among two hundred necropsies which he made on persons who died a violent death, he has in as many as 20 per cent. found evidence of old tubercular lesions in the lungs which had healed.

Koch‡ states, in his consideration of the subject of predisposition in pulmonary phthisis, that individual cases of the disease have often shown that a person is not at all times an equally favorable subject for the development of the (tubercle bacilli) parasites, for it not infrequently happens that tubercular foci which had reached a fair size contract, cicatrize, and heal up; that means, however, that the same body which afforded a suitable soil for the tubercle bacilli on their first invasion, so that they were able to multiply, has by degrees lost the qualities favorable to them and has changed into a bad soil, thus preventing further growth of the bacilli.

Jaccoud, in his book on the curability of phthisis, warns his readers against the too widespread opinion that pulmonary phthisis is an incurable disease.

> "It seems to me," he says, "that, considering the conclusions recently derived from pathological histology, it would be the greatest benefit, while this again would be a most advantageous opportunity to proclaim more earnestly than ever the curability of this disease, and therefore the necessity of an active plan of treatment. . . . Pulmonary phthisis is curable in all its stages, and in its two forms—the ordinary and the pneumonic. . . . This is the prolific notion which presides over the whole history of the disease and which should unceasingly inspire and direct all medical action.
>
> "When the existence of tubercles in the lung is recognized, it should not be inferred from that moment that he who has them is doomed to death in consequence of their presence. Should it be found that the tubercles soften and a cavern forms, it should not be believed on this account that all is lost. It has been shown that this is not the case, and the natural tendency which tubercle has to fibrous transformation—that is, to recovery—should never be forgotten."

Tyndale ("Treatment of Consumption") says:

> "Consumption is curable. In proof of this, we not only point to the results of autopsies, where the shrunken, contracted tissue processes point to the original seat of disease, but also to the complete convalescence of undoubted phthisical subjects."

Lindsay ("Climatic Treatment of Consumption"), speaking of the curability of consumption, says:

> "There can be no more fatal error than to regard the disease in all its forms and stages essentially incurable. Such a view not only discourages rational treatment and stifles hope, but is in conflict with evidence which is as certain as any evidence short of mathematical demonstration can be. There are still some who explain all the alleged instances of recovery from consumption by the hypothesis of an error in diagnosis.
>
> "According to these authorities, recovery from pulmonary disease is *ipso facto* proof that that disease was not consumption. Fortunately, another kind of evidence is available to meet this objection. The records of the post-mortem room are full of instances of persons dying of the most diverse maladies in whose lungs are found indubitable signs of former tubercular disease, which has undergone arrest, leaving the lungs more or less permanently damaged, but in many instances perfectly competent to fulfill all the needs of the organism. . . . These cases, so far from being mere curiosities of pathology, are comparatively common."

C. T. Williams (in his work on "Pulmonary Consumption") says:

> "It is in chronic tubercular phthisis that the greatest triumphs of treatment have been achieved, when time, money, and perseverance are not lacking, and we can in most cases promise prolongation of life, and in others complete arrest of the disease."

Williams cites many such examples from his own practice.

Hermann Weber reports a great many cases of recovery from pulmonary phthisis which have occurred under his own observations. In his "Croonian Lectures," which were delivered in 1885, he gives a short sketch of a case in which he had the opportunity of witnessing two separate attacks of phthisis, terminating in recovery, and finding the remains of the lesions by post-mortem examinations years after the second recovery, when death had occurred from typhoid fever with perforation. Weber has recently reported the results of his own statistics of 106 cases of phthisis treated by residence at great altitudes. Of these, 38 were cured and 42 improved. He also pointed out that equally good results might be secured at lower levels under proper treatment. He has repeatedly called attention to Dettweiler's and Brehmer's statistics, which he declares are perfectly reliable. In the lectures referred to Weber states, that even the presence of a cavity does not preclude a cure more or less complete, all the best observers of England and many of the continent have proved.

Flint says in Pepper's "System of Medicine":

> "If by the term (cure) be meant that all pulmonary symptoms cease, that the patient has good general health, and that the damage to the lungs is not sufficient to prevent an adequate exercise of their functions, a cure may take place before as well as after the formation of cavities."

It is only fair to state, however, that out of 640 cases which Flint recorded during a period of thirty-four years, only 44 recovered.

Loomis (in "Practical Medicine") says:

> "Chronic pulmonary phthisis is not necessarily a fatal disease. Its morbid processes may be arrested in their early stage in a large proportion of cases. In the advanced stage, or stage of cavities, proper treatment will prolong life, and in some

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* "Rocky Mountain Health Resorts."

† "Medical Record," *loc. cit.*, for July 28, 1888.

‡ "Investigations of Pathogenic Organisms," New Sydenham Society's Translations, 1886, p. 199.

cases permanently arrest the progress of the disease. Recovery has occurred in one sixth of my recorded cases during the past ten years."

It is hardly necessary for me to give the opinions of the many other prominent medical writers who regard phthisis as a curable affection. Suffice it to say, "their name is legion." I have been frequently requested to give a report of the results which the local antiseptic treatment of phthisis has afforded at my hands.

This I have done in a recent publication.* The results reported show that out of 154 cases, 55 recovered, 52 improved, 13 deteriorated, and 34 died.

Whenever a medical man sends a phthisical subject to a locality where the air is charged with the *odors* of pine trees, he practically admits his belief in the benefits of the local treatment of phthisis by inhalation, and yet it is a matter of common observation that many physicians who follow this practice are bitter opponents to the inhalation treatment of consumption when artificially administered, because, as they claim, it is impossible to make use of medicament by any such means of sufficient potency to destroy the tubercle bacilli in the lungs. This objection might be answered by the inquiry, What evidence is there to show that pine-tree *odors* or the attenuated air of great altitudes can accomplish such a result?

I have been frequently asked if it is possible to bring to bear, by the means I employ,† antiseptic or medicinal influences sufficiently potent to destroy the tubercle bacillus or the cause, whatever it may be, of the morbid processes going on in the lungs? My reply is: *Certainly not.* My only purpose is to overcome the patient's predisposition to phthisical degeneration in the lungs; to eradicate it, or "to render the soil bad," as Koch comprehensively puts it, "to deprive it of the qualities favorable to the existence and multiplication of the tubercle bacillus, thus preventing its further growth"; and this is accomplished in many instances, as it seems to me, by increased oxygenation of the blood, by mechanical expansion of the contracted air-vesicles, by augmenting the cubic capacity of the chest and developing its muscular energies. These results follow the inhalation of aseptic air under pressure.

The utility of inhalations of antiseptic and stimulating medicament has been forcibly emphasized by Oertel in his work on "Respiratory Therapeutics," who says:

> "I consider inhalations of carbolic acid, or the analogous salicylic and boric acids, to be absolutely indispensable in the different stages of pulmonary phthisis, in chronic pneumonia, in the liquefaction of caseous infiltration, also in copiously secreting cavities filled with decomposing products, in deep-spreading laryngeal ulcerations, to the ragged, callous margins of which the decomposing bronchial and cavernous contents adhere and undergo still further decomposition, exposed to the influence of atmospheric air. Again, the widespread mycoses of the air-passages and of the lungs which I have repeatedly observed in the course of phthisis are best combated by the phenol spray, and the vegetable parasites which proliferate over the whole respiratory tract, even to the pulmonary alveoli, are in a short time destroyed by it."

Filleau and Léon Petit have demonstrated* that, in order to render the tubercle bacillus inactive, it is necessary to have recourse to ebullition, steam, or prolonged contact with antiseptic substances—such as concentrated ammonia or strong salicylic-acid solutions, absolute alcohol or a strong solution of carbolic acid, or of its analogue, creasote —Schill and Fischer having shown that "corrosive sublimate is powerless to disinfect the sputum," because an albuminate-of-mercury envelope is formed and protects the interior of the mass against disinfection.

In this connection I wish to call attention to the remarkable results which were recently obtained through the antiseptic treatment of pulmonary phthisis with creasote by inhalation in which the primitive (oro-nasal) inhaler was used, by Dr. Austin Flint, assisted by Dr. Maury, at Bellevue Hospital, and reported by the former in the "New York Medical Journal" for December 8, 1888.

Taking it all in all, the treatment which I have made use of for some time past is, as it seems to me, rational from every standpoint. I, however, neither advocate nor practice it to the exclusion of all other methods. I believe that protracted residence at great altitudes in aseptic air in suitable cases, in conjunction with the inhalation of antiseptics, where the patients are constantly under medical supervision, will give much better results than have been heretofore obtained, and I also believe that the Brehmer sanitarium system—as described and ably advocated by Dr. P. H. Kretzschmar, which has secured such remarkable results, through rational dietetic and hygienic management—would be greatly re-enforced by the addition of antiseptic inhalations such as I have alluded to.

> "It is the duty of our profession," as Weber insists, "to teach the public that it is a great mistake to think that the invalid and his friends are able to manage the dietetic and hygienic treatment of consumption, or that it is enough to go for a season, or for several seasons, to a certain climatic health resort, and that the climate itself is able to cure phthisis without the assistance of local doctors. Many valuable lives are lost through this error, even under the most favorable climatic circumstances—lives which might be saved under strict medical guidance."

And I will add that it is also the duty of our profession to educate the laity to regard pulmonary phthisis as a curable disease, and thus, by inducing a hopeful view of its prognosis, secure their cheerful co-operation for their recovery whenever any of them or of those in whom they are interested contract that disease and become our patients. In conclusion, I wish to say that I fully appreciate any inability to place this matter as I see it before the profession, and that were it otherwise I should enjoy the conviction that I had contributed somewhat toward a more general recognition of the curability of pulmonary phthisis, as well as to its more successful treatment.

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* "Hand-book of Historical and Geographical Phthisiology," D. Appleton & Co., 1888, page 295.

† In order to avoid any misapprehension, it should be stated that my efforts in treatment have been to secure the simultaneous local operation of compressed aseptic air, as well as and in conjunction with the topical application of stimulating and antiseptic medicament.

* "Medical Record" for January 19, 1889, *loc. cit.*

THE
NEW YORK MEDICAL JOURNAL,
*A Weekly Review of Medicine.*
Published by D. Appleton & Co.
Edited by Frank P. Foster, M. D.

NEW YORK, SATURDAY, MARCH 30, 1889.

## MR. VICTOR HORSLEY ON RABIES.

It is with great satisfaction that we have read in the "British Medical Journal" a lecture lately delivered by Mr. Victor Horsley before the Epidemiological Society of London, entitled "On Rabies: its Treatment by M. Pasteur, and on the Means of Detecting it in Suspected Cases." Our satisfaction is founded to some extent upon the fact that the data presented by Mr. Horsley, as well as the conclusions drawn from them, amount to an incontrovertible vindication of M. Pasteur's title to the credit of having robbed the dreadful disease rabies of its terrors—an accomplishment that in this country has been recognized by this journal almost alone—but it is founded still more largely on the conviction that Mr. Horsley has amply demonstrated the feasibility of stamping out the disease, and that the day can not be far distant when governments will systematically enforce the measures required to bring about this result.

It is true that rabies in the human subject is a comparatively rare disease, but in many communities, nevertheless, it recurs from time to time in what may fairly be called an epidemic form, inflicting a horrible death upon great numbers of human beings. In the year 1885 it destroyed twenty-seven lives in London alone. Before the adoption of the Pasteur treatment it was practically attended with a mortality of a hundred per cent.; that is to say, all in whom it actually declared itself perished. Even among those who were bitten by indubitably rabid animals, counting those in whom the disease failed to take place, the average mortality was about fifteen per cent., as Mr. Horsley shows from his own personal observations and from the facts recorded by Leblanc and by Dujardin-Beaumetz. Now M. Pasteur has reduced the death-rate among precisely this class of persons to between one and two per cent. When we call to mind the fact that, prior to M. Pasteur, nobody had ever proposed a plan of treatment worthy of the name, the only attempt made having been, as Mr. Horsley says, to secure euthanasia or some approach to it by empirical dosing with narcotics, thus lowering the over-excitability of the congested reflex centers—when we call this to mind, we can come somewhere near an appreciation of the magnitude of Pasteur's achievement.

Mr. Horsley justly reproaches his own country with being content thus far to accept M. Pasteur's charity, which has been freely afforded to many Englishmen, few of whom have made any return for the treatment received; he even goes further, saying: "The actual need for treatment ought not to exist in Great Britain, and it is a scandal that it does so exist." By this he means that the disease may be radically stamped out by the destruction of all stray and unclaimed dogs and cats, the muzzling of other dogs, and the employment of stringent measures to prevent the importation of the disease from other countries. All this is unquestionably true, and it is as true of the United States and other lands as it is of the United Kingdom. It is to be hoped, therefore, that governments will take immediate steps accordingly, and certainly it is to be urged by the medical profession that they take such steps.

## *MINOR PARAGRAPHS.*

### CAFFEINE IN PUERPERAL CONVULSIONS.

In a recent number of the "Practitioner," Mr. Bolton Corney writes of the value of caffeine in cases of puerperal eclampsia in which there is no interference with the function of the kidneys, and in which toxæmia has not been demonstrated, but in which there is a history of nervous irritability, peculiarities of temper, vertigo, headache, neuralgia, and other neurotic manifestations. He gives the history of a case of this sort in which the patient was *in extremis* when the use of caffeine was first resorted to. Three grains of the citrate, dissolved with two grains and a half of sodium salicylate in ten minims of distilled water, were injected, in an hour six grains more were given by the mouth, and afterward two grains were given every two hours for twelve hours. The patient began to improve at once, but lost ground again when the use of caffeine was suspended, to improve again and progress to recovery when it was resumed. Mr. Corney's idea seems to be that caffeine takes the place of an alcoholic stimulant to a certain extent, and that it tends to favor the recovery of the nervous system from the depressing effects of the sedatives that are almost always used.

### DOSIMETRY.

Dr. L. A. Merriam, of Omaha, has written us a letter in which he says: "I have taken your valuable Journal for the last sixteen years, and have of late been wondering why you do not tell us something about 'dosimetry.'" If Dr. Merriam will overhaul his file of the Journal, he will find in volume xxxiv, covering the second semester of the year 1881, on page 656, a sufficiently minute account of the so-called dosimetric system of therapeutics. The career of "dosimetry" since that time (which is within the period of sixteen years during which Dr. Merriam has taken the Journal) has not brought forth anything that seems to us to call for further mention of the matter.

### THE ACADEMY OF MEDICINE'S COLLECTION OF PERIODICALS.

We have received "Part I, United States and Great Britain," of a catalogue entitled "Periodicals, Transactions, and Reports in the Library of the New York Academy of Medicine," printed in Boston. It is a pamphlet of 71 large octavo pages, closely printed; but then it contains the titles of some works that we have never looked upon as either periodicals, transactions, or reports—such, for example, as von Ziemssen's "Cyclopædia of the Practice of Medicine," the same author's "Handbook of General Therapeutics," and Buck's "Reference Handbook of the Medical Sciences." We infer from what is said in the preface, however, that works issued "in successive parts" are considered as periodicals, which strikes us as an odd view to take. Under the titles statements are given of the numbers needed to make the sets complete. In the case of journals, "editorial changes are not noted, except as they may occur in connection with change of title." Although we have noticed some inaccuracies, we think that the resident librarian, John S. Brownne, Esq., is entitled to great credit for the work of making out the list. He very properly calls the periodicals the most valuable part of the Academy's library.

### THE TRADE IN FACTITIOUS BRANDY.

This business goes briskly on, if we may judge by an auction sale of wines, brandy, etc., that was announced to take place last week. Among the articles mentioned in the announcement was "1 hhd. brandy flavoring, in bond." Everybody knows what this stuff is intended for—to be mixed with some inferior spirit, and the compound sold as "French brandy." And this is the product obtained, at a high price, by almost everybody who buys so-called French brandy in this market.

### THE EASTERN DISPENSARY.

This institution, which for many years has done most excellent work among the sick poor of New York, has now given a fair trial to the plan of maintaining a paid staff of medical officers, and we are informed that its experience in this respect has proved decidedly satisfactory. Evidence is not wanting to show also that the sick appreciate the superiority of medical services rendered by picked men, such as the system of making appointments on the basis of competitive examinations enables the dispensary to constitute its staff with. An important position on the staff is now open to competition, under terms that will be found stated in our advertising columns. It is evident from those terms that the trustees will find no difficulty in making a proper appointment to fill the vacancy.

### THE SLOANE MATERNITY HOSPITAL.

The newspapers have given publicity—with more or less exaggeration, it is to be presumed—to an unpleasant occurrence that is said to have happened lately in the hospital. A member of the house staff is represented as having become angry with a patient, presumably a woman in labor, and as having dealt her a blow on the face, whereupon a medical student who was present became indignant, and subsequently sought out the house officer, with the result of a fisticuff engagement between the two men. The hospital stands on the grounds of the College of Physicians and Surgeons, and is under the government of the college faculty, and it is announced that a committee of the faculty is investigating the affair. Meantime the student is enjoying the commendation of his fellows. The disgraceful element of the occurrence lies not so much in the affray between the two young men as in the fact, if it is a fact, that, even under any provocation, a person performing the functions of a medical attendant should have lost his self-control in the matter of his behavior toward a patient. We trust that the allegation will be shown to be false, for the bare report of such an affair is likely to go far toward creating a feeling of aversion to the institution on the part of the class from which its beneficiaries are mostly drawn, and thus seriously impair its usefulness for a time.

### SCOLIOTIC SCIATICA.

In an article published in the "Archiv für klinische Chirurgie," xxxviii, 1, an abstract of which is given in the "Deutsche Medizinal-Zeitung" for March 7th, Herr Hugo Schüdel, of Duisburg, sustains Kocher's theory that the scoliosis is due to an extension of the neuralgic trouble to the pelvic muscles, the tonic contraction of which (involuntarily maintained by the patient as a means of alleviating the pain in the cutaneous nerves that run through those muscles) gradually brings about a curvature of the vertebral column. The lumbar nerves, he says, are always affected, but involvement of the ischiadic plexus alone is sufficient to produce a moderate curvature. In four cases he has observed good results from nerve-stretching in conjunction with faradization, followed by massage where there was reason to suspect that the sciatic nerve was incarcerated in the scar. The patient should be kept in bed for from ten to fourteen days, even if improvement occurs earlier. Perfect cure takes place only after a long time.

### THE "JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION."

The "British Medical Journal" remarks that Surgeon-General Hamilton's resumption of his duties in the Marine-Hospital Service, and his consequent withdrawal from the editorship of the "Journal of the American Medical Association," are generally regretted, as his connection with the "Journal" had been expected to develop it considerably, with a corresponding influence on the growth of the association. It is remarkable that Dr. N. S. Davis is twice called Dr. N. S. *Smith* in our contemporary's article.

### QUININE FEVER.

In the "Union médicale" for March 14th M. Millot-Carpentier gives an interesting summary of an article on Tomaselli's disease (quinine fever, described by Tomaselli in 1874), by Signor Moscato, published in the "Gazzetta degli ospedali." It is a form of quinine poisoning that occurs in certain malarious subjects, causing, according to Tomaselli's statistics, a mortality of thirty-five per cent. It comes on only when quinine is given, and subsides on its withdrawal. The urine becomes blackish and is passed with difficulty; the face assumes a cadaveric aspect; and there are chills, cold sweats, and an alarming arrest of respiration. This morbid condition is to be distinguished from the ictero-hæmaturic fever of hot climates by the result of treatment and by the fact that the latter comes on with all its characteristics before any quinine has been used.

### ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending March 26, 1889:

| DISEASES | Week ending Mar. 19. | | Week ending Mar. 26. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 9 | 3 | 7 | 2 |
| Scarlet fever | 387 | 46 | 435 | 61 |
| Cerebro-spinal meningitis | 1 | 0 | 3 | 1 |
| Measles | 189 | 20 | 184 | 19 |
| Diphtheria | 200 | 46 | 158 | 39 |

**Professor Bardeleben.**—The "British Medical Journal" announces that Sir T. Spencer Wells, Sir James Paget, Sir Joseph Lister, Mr. William Savory, Dr. Edward Sieveking, Sir Andrew Clark, Sir William MacCormac, Mr. Jonathan Hutchinson, and Mr. Ferd. Junker sent this message to Berlin on the 1st of March: "Some English friends and colleagues of Professor Bardeleben desire to join their professional brethren in Germany in the congratulations upon his seventieth birthday, and in heartily wishing that the remainder of his honorable and useful life may be long, healthy, and happy."

**The Death of M. Legouest**, the well-known French surgeon, is announced in the "Gazette hebdomadaire de médecine et de chirurgie" as having taken place on the 5th inst., in consequence of a septic phlegmon of the parts below the base of the tongue. Dr. Legouest was the author of a treatise on military surgery and the editor of Sédillot's "Médecine opératoire."

**The Annual Meeting of the National Association of Railway Surgeons** will be held at St. Louis, on Thursday and Friday, May 2d and 3d. The prospect is said to be that this will be one of the largest gatherings of medical men ever assembled in this country. Dr. W. B. Outten, of St. Louis, is the chairman of the committee of arrangements. Any information desired can be had by addressing the secretary, Dr. C. B. Stemen, of Fort Wayne, Indiana.

**The American Medical Association.**—The following notice to exhibitors, issued by the chairman of the committee of arrangements, Dr. Horatio R. Storer, applies to the fortieth annual meeting, to be held in Newport on the 25th, 26th, 27th, and 28th of June:

Intending exhibitors should address Dr. Charles A. Brackett, Newport, R. I., chairman of the sub-committee upon exhibits, The following classes of applications will be entertained: 1. Medical books and stationary, charts and diagrams, busts, portraits, engravings, photographs, etc. 2. Hospital and ambulance plans and models. 3. Surgical instruments and supplies, general and special (gynæcic, obstetric. orthopædic, laryngeal, otic, ophthalmic, dental, etc.). 4. Microscopes, analysis outfits, and electro-galvanic apparatus. 5. Pharmaceutic products. 6. Rubber goods applicable to medicine and surgery. 7. Invalid furniture. 8. Invalid foods. 9. Sanitary appliances, such as ventilators, filters, water-closet basins, traps, and similar necessities, and disinfectants. As a large attendance is probable, while the space available for exhibits is comparatively limited, the advantage of early application will be perceived. Choice of space will be given in accordance with the date of application. Applicants should state the character of their proposed exhibits, that they may be assigned to their respective groups. The sub-committee reserve the right of rejection, in case of apparent reason.

**The Society of the Alumni of Bellevue Hospital.**—The second annual address before the society will be given at the Academy of Medicine, on Wednesday evening, April 3d, at 8.30 o'clock, by Dr. William Osler, professor of medicine in the Johns Hopkins University, of Baltimore, on the subject of "Phagocytes." Members of the profession are invited to be present. At 10 o'clock on the same evening the society will hold a reception in Professor Osler's honor at the Cambridge, on the corner of Fifth Avenue and Thirty-third Street.

**The Death of Professor Donders,** of the University of Utrecht, is reported as having taken place on Monday, the 25th inst., in the seventy-first year of his age.

**Iron and Cascara in Constipation.**—Our Paris correspondent sends us a formula of Luteaud's for the constipation of women who are chlorotic and dyspeptic. It shows, he says, that iron can be very well associated with cascara: ℞ Citrate of iron and ammonium, fluid extract of cascara sagrada, each, forty parts; saccharin, one part; distilled water, four thousand parts. The dose of this preparation is a teaspoonful before each meal.

**Society Meetings for the Coming Week:**

Monday, *April 1st:* New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association (annual); Providence, R. I., Medical Association; Chicago Medical Society.

Tuesday, *April 2d:* New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association (annual); Ogdensburgh Medical Association; Essex (annual—Newark), Hudson (Jersey City), and Union (annual—Elizabeth), N. J., County Medical Societies; Androscoggin, Me., County Medical Association (Lewiston); Chittenden, Vt., County Medical Society; Baltimore Academy of Medicine.

Wednesday, *April 3d:* Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Philadelphia County Medical Society (regular); Bridgeport, Conn., Medical Association.

Thursday, *April 4th:* New York Academy of Medicine; Brooklyn Surgical Society; Society of Physicians of the Village of Canandaigua; Boston Medico-psychological Association; Washington, Vt., County Medical Society; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *April 5th:* Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *April 6th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

# Proceedings of Societies.

## NEW YORK SURGICAL SOCIETY.

*Meeting of February 13, 1889.*

The President, Dr. Lewis A. Stimson, in the Chair.

**Extensive Carcinoma of the Rectum.**—Dr. Charles McBurney presented a patient upon whom he had operated four months previously for carcinoma of the rectum, extending from the anus higher than the finger could reach. She had been at that time extremely emaciated and cachectic, but had now quite recovered her health and flesh. Through the posterior vaginal wall the densely infiltrated and ulcerated rectum had felt like a large tumor. If he had known its extent he would not have attempted exsection of the lower bowel, but would have performed inguinal colotomy. However, he had begun by dissecting out the end of the gut, beginning with a circular incision around the anus, and passing upward with the knife on all sides until he had grasped a large tumor in his hand, the mass representing the four lower inches of the rectum. This he had withdrawn through the rectum, not without some difficulty. He had then drawn down the healthy bowel from above and had stitched its end to the skin at the perineal incision, an opening for drainage being left posteriorly. The wound had healed well, and the patient had now a small anus and good control of movements; they were not liquid. No spot of induration could now be felt at any point, or other sign of a recurrence.

Dr. Lange presented two patients upon whom he had operated for the removal of diseased portions of the intestine, with an account of the method used.

Dr. Briddon had seen both operations performed, and wished to testify as to the extent of the difficulties encountered; also to emphasize the importance of Dr. Lange's method of treating the intestine at the inguinal outlet. A somewhat similar result he had seen obtained several times by the following plan: A loop of intestine two or more inches in length was pulled through the incision and caught by a temporary ligature passed through the mesocolon. If the incision through the skin and muscles was made longer than that through the peritonæum, the latter could then be manipulated much more easily. The adjacent sides of the loop were next united by Lembert sutures on either side of the line of contact, and the gut was returned into the abdomen till only the end of the loop projected. The parietal peritonæum was then securely sewed all around to the visceral peritonæum at the point where the loop passed through the opening in it. More space was allowed for the upper intestine through which evacuations were destined to be made than for the lower intestine. The gut was then cut through to within a quarter of an inch of the point where the peritoneal surfaces were united. The mucous membrane at both upper and lower outlet was stitched to the skin. The secretions thrown out in the lower intestine could be washed out daily. With such a spur as that thus formed, fæces never passed into the lower part of the gut, but all would be voided at the artificial outlet.

**Operation for Dorsal Dislocation of the First Phalanx of the Index Finger.**—The President showed a boy, eleven years old, who had suffered this dislocation in a fall upon the outstretched hand. All attempts at reduction by manipulation and traction having failed, he had opened the joint by a longitudinal incision on its palmar aspect and found, as had been expected, that the obstacle to reduction had been created by the position of the anterior or glenoid ligament. This had been torn transversely close to its insertion upon the metacarpal bone and the head of the latter had passed through the rent, and the torn edge of the ligament had been found tightly stretched across the dorsal surface of the metacarpal bone close behind the head. It had been so tense that it could not be lifted back with a tenaculum until after it had been nicked longitudinally at its center. The wound had healed under a single dressing, and now, eighteen days since the accident, the motions of the joint were almost completely restored. He added that, in his experience, these dislocations of the index finger were even more difficult to reduce than the corresponding dislocations of the thumb, which were notoriously difficult.

Dr. R. F. Weir and others had had similar cases, and remarked on the necessity which occasionally arose for a cutting operation, on account of the interposition of the edge of the glenoid or capsular ligament.

**Operations for the Relief of Pain and Deformity remaining after Pott's Fracture.**—Dr. Abbe presented a plaster cast of the leg and foot of a man who, for five years following an untreated Pott's fracture which had united with much deformity, had been unable to walk any distance without suffering great and persistent pain in the joint. The fracture had passed through the base of the malleolus of the tibia, and through the fibula, three inches above its articulation with the tibia. The cast showed the deformity at both points, and also considerable eversion and outward rotation of the foot. Another cast showed the same limb after the parts had been restored to their normal relations. Two horizontal sections had been made through the thick part of the internal malleolus of the tibia, and a block of bone, half an inch in thickness, had been removed. The fibula had then been refractured, and the lower fragment pried up with difficulty from the adhesions which had bound it to the tibia. By using considerable force he had then succeeded in wrenching the joint into its normal position again, the main obstacles to this having now been removed.

Dr. McBurney remarked that he had twice operated for the relief of pain felt in walking after recovery from a Pott's fracture. In one of these cases there had been a deformity, and in the other none had been discoverable. It had seemed to him in this case that a slight separation between the tibia and fibula had allowed the tibia to get into a false relation to the articular surface on the astragalus. With regard to the immediate treatment of a Pott's fracture, he considered it important to put the foot into a position of marked inversion, so as to correct the tendency to the opposite condition which was always to be dealt with in this form of fracture.

The President thought the disability after a faulty repair of a Pott's fracture was largely due to the fact that in walking the weight transmitted through the tibia fell to the inner side of the point where the heel rested on the ground, the foot being displaced outward, and thus an exceptional strain was thrown upon the internal lateral ligament. He fully agreed with what Dr. McBurney had said about the importance of dressing these fractures with the foot markedly adducted and inverted.

Dr. Abbe believed that there was a tendency to dislocation backward, and that therefore, when reduction was made, the heel should be drawn forward and kept there. Otherwise, when the fracture united, pain would result from the impact of the anterior lip of the tibia upon the astragalus.

**The Proper Drainage after Suprapubic Lithotomy.**—Dr. J. A. Wyeth showed a large stone with a rough trefoil-marking on either side which he had removed by a suprapubic incision from a patient forty-eight years of age. He had made drainage through the wound. Recovery had been complicated by a persistent sinus at the point of incision, which had closed, but had opened again, and he had finally been obliged to operate to cause it to heal up.

This had happened in two out of seven operations of this kind which he had done, and it seemed as if there must be some inherent reason why drainage through the wound after this operation was apt to be followed by a sinus. Whether urine leaked out along the tube, or whether imperfect drainage caused a cystitis, the inflammation of which spread to the outlet, he had not decided. The bladder was not a cavity, full or empty, owing to the tone and muscular action in its wall.

A discussion followed, in the course of which Dr. Lange remarked that he had had cases in which fistula persisted; it occurred especially in old men. He was accustomed to sew up the opening in part, so that it would barely allow the drainage-tube to pass. After a few days he withdrew the tube and sutured the opening in the bladder, unless it was necessary to wash out the latter longer. He had usually got good results. He had noticed in those who had a fistula that the urine did not escape from it unless under great pressure. Drainage by a permanent urethral catheter might in some cases be made, and the pain controlled by opium. The tube acted as a siphon, even when the patient lay on his back. It must be remembered that a fistula sometimes persisted after an opening of the bladder through the perinæum.

Dr. R. F. Weir and Dr. Willy Meyer attached all importance to the withdrawal of the tube on from the third to the fifth day. When it was left in for two weeks the danger of a fistula was much increased. The first-named gentleman had put a second tube into the bladder, and by suction ascertained that no urine had failed to be withdrawn by the drainage made from above. As to a permanent catheter, there were as many who were unable to endure it as there were who were able.

Dr. McBurney had experienced the same difficulty in getting the incision to heal after a suprapubic lithotomy and suprapubic drainage. He thought it occurred more frequently than after drainage by a perineal incision, and that any surgeon would proceed to treat a persisting suprapubic fistula by opening the bladder from below. A permanent catheter passed through the urethra certainly often gave bad results. Drainage by an incision through the membranous urethra was without risk or inconvenience, and seemed to him to possess every advantage.

The President believed that it made an important difference whether the drainage-tube passed through an opening above the pubes or not, because, in his opinion, some urine always remained unexpressed when drainage was made from above. If it was attempted to make drainage by a catheter passed through the urethra into the bladder, some urine would always settle at the base of the bladder below the level of the urethral orifice. An opening through the perinæum, or the operation of external urethrotomy, had, in his experience, every advantage over the other methods. He had seen the temperature fall at once to normal when such an opening had been made. He therefore never omitted to make it.

**A Large Bursa over an Exostosis.**—Dr. McBurney presented a specimen of exostosis removed from the outer aspect of the right femur of a young woman over which a large bursa, holding three ounces of bloody serum, had been formed.

Dr. Weir had removed such a bursa, and the minute exostosis which had caused it, from a woman who had traveled all over Europe for the relief of what had been supposed to be a hysterical joint affection.

**Dislocations of the Astragalus.**—The President showed two plaster casts of the deformity produced by the dislocation of the astragalus forward and outward, and also the fractured astragalus removed from one of the patients. The first patient, a stout woman, forty-one years old, had been admitted to the Chambers Street Hospital in December, having just fallen from a step-ladder to the floor, about eight feet, striking upon her left foot. The sole had been slightly inverted and the toes adducted, and an abrasion had been found over the external malleolus. Close below and in front of the external malleolus there could be felt a small, sharp edge of bone which could be moved slightly, with crepitus; an inch in front of this there had been a rounded mass of bone just under the skin, apparently the head of the astragalus. In front of this the parts had been deeply depressible, and the fingers had come upon the resistance of the tarsus and metatarsus. On the inner side the change of direction made by the inversion of the foot had begun an inch or more above the tip of the malleolus, the latter being masked by the swelling, but palpable on deep pressure and apparently uninjured. The bony prominences along the inner and outer borders of the foot had been recognizable in their normal relations. The prominence of the heel had appeared a little increased. Ether had been given and, reduction failing, longitudinal incision had been made in front corresponding to the interspace between the tibia and fibula, and prolonged upon the dorsum of the foot so as to expose the head of the astragalus. The astragalus had lain upon its inner side, almost wholly displaced from the tibio-fibular mortise, its head directed forward and slightly outward, its inferior surface looking outward and slightly backward. Its attachments had been completely severed except at the postero-external angle; at the postero-internal angle a small piece had been broken off and had remained attached to the capsule. The astragalus and its fragment had been removed, and the wound had been closed. The patient had made a good recovery, but was not as yet able to bear her weight upon the foot.

The second patient, a spare man, forty-four years old, had been admitted to the Chambers Street Hospital in January, having just fallen from a ladder, ten feet, striking on his left foot. As shown by the cast, the foot was inverted 30°, adducted 45°, and in plantar flexion 20°. About two inches forward and inward from the external malleolus there had been a hard, rounded prominence, evidently the head of the astragalus. Midway between this and the external malleolus a sharp edge of bone could be felt, slightly movable with the head of the astragalus. This had been thought to be either the upper or the lower outer border of the body of the astragalus. The result showed that it must have been the upper one. The internal malleolus had been completely masked by the swelling, but could be made out on deep pressure. Ether had been given, and reduction easily made by traction upon the foot in the axis of the leg, and pressure with the thumb upon the head of the astragalus; the bone had slipped into place with a distinct snap. The foot and leg had been dressed with gypsum bandages, renewed on the eleventh day and removed on the twenty-third. There was free, painless motion at the ankle, and the patient could walk easily.

**Linen Thread for Sutures and Ligatures.**—Dr. Willy Meyer reported having found a substitute for other kinds of ligatures and sutures in linen thread such as was sold at the regular dry-goods shops. His experience with its use was only a short one, but confirmed the results obtained with the same article by Trendelenburg. It was serviceable, safe, cheap, and easily prepared. The only preparation necessary was to wind it on a glass rod and soak it for twelve hours in a solution of corrosive sublimate (one per cent.) and then preserve it, wound on a glass spool, in a one-to-one-thousand solution of the same. It was not necessary to boil it first in a five-per-cent. solution of carbolic acid and then preserve it in alcohol, as had once been done with silk. By soaking the thread in a ten-per-cent. solution of iodoform in ether, shortly before using it, iodoform linen thread could easily be prepared. The thread made by Marshall & Co. was sold in various sizes. No. 40 answered well for sutures and ordinary ligatures, and No. 25 for tying arteries of a larger caliber. A smaller size (about No. 50 or 60) should be used for plastic operations. Linen healed well in the wound, but should be used only where primary union was to be expected. In comparison with catgut, its only disadvantage was that it was not so slippery and therefore had to be pulled more. When moist it was stronger than when dry. Of course, catgut was the ideal article for the purposes under discussion, but its aseptic condition, even after a thorough primary disinfection, was often untrustworthy, especially in the case of a thick thread which had been preserved for some time. Linen thread was especially adapted for use in large institutions and dispensaries on account of its easy preparation and its extremely low price.

Dr. Weir remarked that he had been using silk in all his operations of late, and had never got better results, except from the old-style carbolic catgut, which was now called unscientific.

**Gangrene of the Vermiform Appendix.**—Dr. Meyer presented a specimen of gangrenous vermiform appendix which was perforated by eight or ten sharply cut holes. It had been removed from a perityphlitic abscess in a woman twenty-five years of age at the German Hospital. This abscess had perforated through the fasciæ directly above Poupart's ligament, and a large superficial swelling had been formed just below the ligament. The pus having been evacuated by a free incision, a small protruding mass had been seen in the depth which had proved to be the lower end of the vermiform appendix. A gentle pull had removed it in its entire length and more pus had escaped, but no foreign body or fæcal concretion had been found. The patient had been discharged cured.

There was some discussion as to the cause of the grangrene in such cases as the foregoing. Dr. Abbe remarked that he had preserved one specimen the appearance of which had led him to infer that the appendix had been strangulated by the intensity of the inflammation which had arisen at its base, so that gangrene had resulted simply from loss of circulation.

**Simultaneous Extirpation of the Spleen and a Kidney.**—Dr. Weir presented a lacerated spleen and a kidney with its emulgent veins torn across which he had removed by laparotomy from a girl aged eleven, who, twenty hours previously, had fallen a distance of twenty feet and sustained abdominal injuries, most marked in the left side, and demanding surgical interference, as the patient's condition had been fairly good. The peritoneal cavity had been found filled with blood, over a pint being eventually removed. The kidney, dislocated downward to the level of the iliac crest and surrounded by a large amount of blood which had escaped into the retroperitoneal tissue, projected so much toward the middle line as to require an immediate investigation, which was made by cutting through its peritoneal covering. It had then appeared that it was held only by its artery, its emulgent veins being torn across. The artery had accordingly been tied and the kidney removed, and lumbar drainage had subsequently been made. After the renal extirpation, bleeding still going on, a rapid examination had shown that the source of the bleeding was in the spleen, which was deeply lacerated on its median aspect above the hilum. This also had been easily brought into view, its vessels clamped, and the organ removed. The stump held in the clamp had then been readily tied; the abdominal cavity had then been sponged out and the wound closed. For a few hours it had seemed as if there was a decided hope of the patient's recovering, even from such a severe surgical procedure. However, death had ensued nine hours after the operation.

## Book Notices.

*Therapeutics:* Its Principles and Practice. By H. C. Wood, M. D., LL. D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System, in the University of Pennsylvania. A Work on Medical Agencies, Drugs, and Poisons, with Especial Reference to the Relations between Physiology and Clinical Medicine. The Seventh Edition of a Treatise on Therapeutics, rearranged, rewritten, and enlarged. Philadelphia: J. B. Lippincott Company, 1888. Pp. 16–17 to 908. [Price, $6.]

A work that has passed through seven editions in the comparatively short period of thirteen years has the seal of the approval of the profession so strongly impressed upon it that very little is left for the reviewer save to call attention to changes from preceding editions. These consist in the present instance in a change of classification and in devoting the first part of the book, instead of the second part as heretofore, to the general considerations of therapeutics. The second part treats of drugs, and these are divided into two classes, systemic remedies and extraneous remedies. A further division is into two great classes: Class I, general remedies, drugs which affect the tissues of the body generally or such organized systems as reach all portions of the body. Under this caption are three orders: Order I, nervines, drugs which affect the nervous system; Order II, cardiants, remedies which affect the circulatory system; Order III, nutriants, medicines which influence the nutritive functions of the body.

Class II, local remedies, drugs which affect one organ or apparatus more or less isolated from the remainder of the body. The author has added much new matter to the present volume, and all new drugs, such as hydrastine, strophanthus, urethane, kawa, acetanilide, acetphenetidin, etc., receive a fair share of attention.

Some idea of the amount of work expended by the author may be gathered from the statement that in the preparation of the present edition nearly 600 memoirs had to be carefully studied. The book is somewhat larger and thicker than its predecessors and the type is larger. As in preceding editions, the physiological action of remedies receives much fuller attention than therapeutics. The latter is strikingly meager in the case of morphine, codeine, cannabis indica, and several other drugs. This at the present day may be considered rather an advantage than otherwise, for, if the physician is well grounded in the physiological action of a remedy, he ought to be able to reason out its therapeutic applications. But it must be confessed, to our shame, that as yet many drugs are administered on the basis of empiricism rather than on that of experimental research.

### BOOKS AND PAMPHLETS RECEIVED.

Dictionary of Volapük. Volapük-English. English-Volapük. By M. W. Wood, M. D., Captain and Assistant Surgeon, United States Army. New York: Charles E. Sprague. London: Trübner & Co., 1889. Pp. viii–398. [The International Language Series.]

Electricity in the Diseases of Women, with Special Reference to the Application of Strong Currents. By G. Betton Massey, M. D., Physician to the Nervous Department of Howard Hospital, etc. Philadelphia: F. A. Davis, 1889. Pp. viii–210. [Price, $1.50.]

Transactions of the American Surgical Association. Volume the Sixth. Edited by J. Ewing Mears, M. D., Recorder of the Association. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. xxvii–572.

The Training of Nurses. Address before the Convention of the State Board of Charities and Corrections at Grand Rapids, Michigan. By Hal. C. Wyman, M. S., M. D., etc. [Reprinted from the "Medical Register."]

Some Clinical Experiences with Insomnia. By Edward N. Brush, M. D., etc. [Reprinted from the "Practitioner."]

Report on Medical Education, Medical Colleges, and the Regulation of the Practice of Medicine in the United States and Canada, 1765–1889. By John H. Rauch, M. D., Secretary Illinois State Board of Health.

Twentieth Annual Report and By-laws of the New York Physicians' Mutual Aid Association.

Report of Some Recent Cases of Abdominal Section for the Removal of Tumors, of Unusual Interest regarding the Character of the Tumors and the Method of Operating. By B. F. Baer, M. D., etc. [Reprinted from the "Transactions of the Obstetrical Society of Philadelphia."]

Pathology and Treatment of Alopecia Areata. By A. R. Robinson, M. B., L. R. C. P. and S. (Edin.), etc. [Reprinted from the "Transactions of the Ninth International Medical Congress."]

Descent and Disease. By R. G. Eccles, M. D. (Read before the Medical Society of the County of Kings, November 20, 1888.) [Reprinted from the "Brooklyn Medical Journal."]

Pressure Forceps *versus* the Ligature and the Suture in Vaginal Hysterectomy. By E. C. Dudley, M. D., Chicago. [Reprinted from Vol. XIII, "Gynæcological Transactions."]

Prevention of Yellow Fever in Florida and the South. (Read before the Baltimore Academy of Medicine, December 4, 1888.) By W. C. Van Bibber, A. M., M. D., etc.

Atti della terza riunione d'igienisti italiani tenuta nell' Ottobre 1888 in Bologna.

A New Procedure in Cases of Anticipated Complete Rupture of the Perinæum. By Edward B. Weston, A. M., M. D., etc., Chicago.

The Means of effecting the Unity of the Medical Profession. Being the Anniversary Discourse delivered before the New York Academy of Medicine, Thursday Evening, November 15, 1888. By D. B. St. John Roosa, M. D., LL. D.

A Contribution to the Treatment of Fractures at the Lower End of the Humerus, based on the Analysis of Fifty Consecutive Cases. By Charles A. Powers, M. D., etc. [Reprinted from the "Medical Record."]

Electrolysis in Gynæcology. By Augustin H. Goelet, M. D., New York. [Reprinted from the "North Carolina Medical Journal."]

Subacute Progressive Polymyositis. By George W. Jacoby, M. D., New York. [Reprinted from the "Journal of Nervous and Mental Disease."]

Note on Rumbold's Method of Treatment of Catarrhal Inflammations of the Upper Air-Passages. By Ely McClellan, M. D., Surgeon, United States Army. [Reprinted from the "Journal of the American Medical Association."]

Transactions of the American Dermatological Association at its Twelfth Annual Meeting, held at Washington, D. C., September 18, 19, and 20, 1888, in connection with the First Meeting of the Congress of American Physicians and Surgeons. Official Report of the Proceedings by the Secretary, G. H. Tilden, M. D.

The Physician as a Naturalist. Addresses and Memoirs bearing on the History and Progress of Medicine chiefly during the Last Hundred Years. By W. T. Gairdner, M. D., LL. D., Professor of Medicine in the University of Glasgow, etc. Glasgow: James Maclehose and Sons, 1889. Pp. x–436.

Congestive Neurasthenia, or Insomnia and Nerve Depression. By E. G. Whittle, M. D. Lond., F. R. C. S. Eng., Senior Surgeon to the Royal Alexandra Hospital for Sick Children, Brighton. London: H. K. Lewis, 1889. Pp. 95.

Hand-book for the Hospital Corps of the United States Army and State Military Forces. By Charles Smart, Major and Surgeon, United States Army. Approved by the Surgeon-General of the Army. New York: William Wood & Co. Pp. viii–577.

Transactions of the American Ophthalmological Society. Twenty-fourth Annual Meeting. New London, Conn., 1888.

Twelve Months of Abdominal and Vaginal Section. By Henry T. Byford, M. D. Presidential Address delivered at the Annual Meeting of the Gynæcological Society of Chicago, October 19, 1888. [Reprinted from the "Chicago Medical Journal and Examiner."]

The Early Recognition of Cancer of the Cervix Uteri. By Henry C. Coe, M. D., M. R. C. S., etc. [Reprinted from the "Medical News."]

A Case of Perforation of the Vermiform Appendix, General Peritonitis, Laparotomy, Accident, and Recovery. With Remarks. By Arthur M. Jacobus, M. D., etc. [Reprinted from the "Medical Record."]

A Rare Case of Adeno-myxo-sarcoma of the Cervix Uteri. By Paul F. Mundé, M. D., etc. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Atlas of Venereal and Skin Diseases. Comprising Illustrations and Selections from the Plates of Professor M. Kaposi, of Vienna; Dr. J. Hutchinson, of London; Professor I. Neumann, of Vienna; Professors A. Fournier and A. Hardy, and Drs. Ricord, Cullerier, Besnier, and Vidal, of Paris; Professor Leloir, of Lille; Dr. P. A. Morrow, of New York; Dr. E. L. Keyes, of New York; Dr. Fessenden N. Otis, of New York; Dr. J. Nevins Hyde, of Chicago; Dr. Henry G. Piffard, of New York; and others. With Original Text by Prince A. Morrow, A. M., M. D., etc. Fasciculi XI and XII. New York: William Wood & Co., 1888.

The Principles and Practice of Dentistry. Including Anatomy, Physiology, Therapeutics, Dental Surgery, and Mechanism. By Chapin A. Harris, M. D., D. D. S., late President of the Baltimore Dental College, etc. Twelfth Edition. Revised and edited by Ferdinand J. S. Gorgas, A. M., M. D., D. D. S., etc. With One Full-page Plate and One Thousand and Twenty-eight Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. 38–39 to 1222. [Price, $7.]

A Manual of Instruction in the Principles of Prompt Aid to the Injured, designed for Military and Civil Use. By Alvah H. Doty, M. D., Major and Surgeon, Ninth Regiment, N. G. S. N. Y.; Attending Surgeon to Bellevue Hospital Dispensary, New York. New York: D. Appleton & Co., 1889. Pp. xiii–224. [Price, $1.25.]

The Psychic Life of Micro-organisms. A Study in Experimental Psychology. By Alfred Binet. Translated from the French by Thomas McCormack. With a Preface by the Author written especially for the American edition. Chicago: The Open Court Publishing Company, 1889. Pp. xii–120. [Price, 75 cents.]

Experimental Surgery. By Nicholas Senn, M. D., Ph. D., Attending Surgeon, Milwaukee Hospital, Professor of the Principles of Surgery and Surgical Pathology in Rush Medical College, Chicago. Chicago: W. T. Keener, 1889. Pp. xii–522. [Price, $5.]

Indigestion, Biliousness, and Gout in its Protean Aspects. Part I. Indigestion and Biliousness. By J. Milner Fothergill, M. D., Member of the Royal College of Physicians of London, etc. Chicago: W. T. Keener, 1889. Pp. viii–320. [Price, $2.25.]

Extracts from the Autobiography of a Paranoiac. Edited, with a Commentary, by Frederick Peterson, M. D., New York. [Reprinted from the "American Journal of Psychology."]

Laparotomy for Ascites. By Thomas A. Ashby, M. D., of Baltimore. (Presented to the American Gynæcological Society, September, 1888.) [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Notes on a Case of Nasal Caries, complicated with Meningitis, successfully treated by Means of the Surgical Drill. By William Chapman Jarvis, M. D., etc. [Reprinted from the "Medical Register."]

The Sixteenth Regular Report of the Medical and Surgical Staff of St. Francis Hospital, Jersey City, N. J., under Charge of the Sisters of the Poor of St. Francis. For the year 1888.

Proceedings of the Academy of Natural Sciences of Philadelphia. Part III. October–December, 1888.

Twenty-first Annual Report of the New York Orthopædic Dispensary and Hospital (for Children with Spine and Hip Diseases and other Deformities). For the Year ending September 30, 1888.

Creasote as a Remedy in Phthisis Pulmonalis. By Beverley Robinson, M. D., etc. [Reprinted from the "Transactions of the Association of American Physicians."]

The 118th Annual Report of the State of the New York Hospital and Bloomingdale Asylum. For the Year 1888.

Observations on the Digestive Ferments. Read before the Section in Pædiatrics of the New York Academy of Medicine, January 23, 1889. By R. H. Chittenden, Ph. D., etc. [Reprinted from the "Medical News."]

The Comparative Merits of Tracheotomy and Intubation in the Treatment of Croup. By George W. Gay, M. D., of Boston. Read before the American Surgical Association, September 20, 1888. [Reprinted from the "Boston Medical and Surgical Journal."]

Sixth Annual Report of the New York Skin and Cancer Hospital.

On some Mild Measures in the Treatment of Intranasal Hypertrophies and Inflammations. By W. H. Daly, M. D., Pittsburgh, Pa. [Reprinted from the "Medical and Surgical Reporter."]

1888. Eleventh Annual Report of the Presbyterian Eye, Ear, and Throat Charity Hospital, Baltimore.

# Reports on the Progress of Medicine.

## OBSTETRICS.

By ANDREW F. CURRIER, M. D.

**Recent Investigations concerning Ergot** (Kobert, "El Prog. Gin. y Ped.," March 25, 1888).—The author's recent investigations showed that ergot was composed of three active organic elements, from a physiological standpoint—namely, ergotinic acid, sphacelinic acid, and cornutine, each of them possessing a particular action. The ergotinic acid contains nitrogen, is readily decomposed, participates in the nature of a glucoside, and agglutinates *en masse.* If boiled with dilute acids, it is decomposed into a dextro-gyrate sugar and a weak base with slightly alkaline reaction. After purification, a white, irreducible hydrocarbon is separated, which is without physiological action and has a resemblance to dextrine. Ergotinic acid belongs to the group of narcotic poisons, and has no action upon the uterus.

Sphacelinic acid does not contain nitrogen, resembles the resins, and is not crystallizable. It is insoluble in water and dilute acids, but is soluble in alcohol. Its alkaline salts are soluble in water, and not in a mixture of alcohol and ether. It operates powerfully upon the womb, and may even produce uterine tetanus.

Cornutine is of a basic nature, and the hydrochloride and nitrate dissolve readily. When it is heated in an alkaline solution, it is decomposed and quickly loses its activity. The hydrochlorate may be heated for a long time, under certain conditions, without decomposition. This alkaloid acts upon the uterus with the greater activity the more advanced the period of pregnancy.

Ménière has recently made observations which coincide with those of the author of this paper. He found that the commercial ergotines were variable preparations as to their activity, the ergotinic-acid element predominating in all of them.

Wenzell's ecboline seems to be only a very impure cornutine. Tanret's ergotine is an alkaloid without toxic properties and with slight action upon the uterus. Only when the extract of ergot is prepared as has been designated by the author can its action be relied upon. The inference is that the most positive effects are to be obtained from the fresh crude drug.

**Shoulder-presentations and their Treatment; Embryotomy and Tarnier's Rhachidian Embryotome** (Le Page, "Le concours médical," Aug. 4, 1888).—Shoulder-presentations are often fatal for the fœtus, sometimes dangerous for the mother, and always troublesome to the accoucheur. Notwithstanding increased skill in the diagnosis of fœtal presentations during gestation, and in the conversion of harmful into normal positions during the same period, the time may never come when suitable examinations before parturition will be generally considered an all-important matter by the laity. Hence the probability that malpresentations will occur indefinitely. If one is called to a case of labor, not too far advanced, in which the shoulder presents, the uterine contractions not being too strong nor too frequent, and the membranes being still intact, external version should be practiced, and either the head or the breech be brought to the superior strait. If this plan can not be carried out, combined external and internal version may be attempted. If, however, the membranes have been ruptured and the cord has prolapsed and ergot has not been given, podalic version may be practiced and the mother be saved, though the child is usually lost. The operation is contra-indicated when the uterus is rigidly contracted or when the shoulder is too firmly engaged. There would be danger of rupture of the uterus, without advantage to the fœtus, which is usually dead at such a time, the latter fact being obtainable, if it exists, by auscultation or by feeling for pulsation in the cord. To hope for spontaneous version and evolution is not giving sufficient protection to the mother, and among the destructive operations which suggest themselves, that of rhachidian embryotomy is believed to be most simple and most safe, and the rhachidian embryotome of Tarnier is regarded as the most effective instrument for performing it, as it acts without undue traction, without the necessity of changing the situation of the fœtus, and is applicable in all cases. It consists of three parts: a crotchet, a knife, and a protector. The crotchet is a rounded rod of steel which is sharply curved at its upper end, the curved portion terminating in a button about as large as a pea. The rod is pierced by a cylindrical canal, the greater diameter of which is near the handle. An attachment above the handle enables one to free the knife at will. The knife is triangular and cuts in an oblique direction, gliding tangentially upon the fœtus. When the instrument is closed, the cutting edge of the knife is lodged exactly in the curved portion of the crotchet. The protector is a quadrangular sheath, the form and dimensions of which are almost exactly those of the knife, and it becomes separated from the latter only to the extent to which the latter enters the fœtal tissues. The instrument should be made aseptic before being used, the different portions being subjected to the fire and to strong antiseptic solutions. The steps in the operation will vary according as one practices cervical or thoraco-abdominal embryotomy.

Cervical embryotomy includes the introduction of the hand, introduction and fixation of the crotchet, introduction and fixation of the knife, section of the neck, removal of the instrument, and extraction of the fœtus. The left hand of the operator is introduced between the fœtus and the pubis if the left hand of the fœtus is inferior in position, and the right hand if the right fœtal hand is inferior. The palm of the introduced hand should look toward the back of the mother, and the fingers of the operator should rest against the furrow in the child's neck. The crotchet is passed over the child's neck by the side of the operator's fingers, and the knife and protector adjusted, the vulva and vagina being sufficiently opened to admit of free play of the instrument. The arrangement is such that no harm can come to any tissues not involved in the grip of the crotchet, and, as the knife works through the fœtal tissues, there is no fear of injuring anything else. The neck having been divided, the crotchet and knife are removed together. Traction upon the projecting arm of the fœtus will usually suffice to remove the trunk, and the head may be extracted by means of a finger in the mouth, or possibly the forceps or basiotripsy will be required. In exceptional cases it is necessary to pass the crotchet from the back to the front of the fœtus, which entails difficulty in getting the instrument sufficiently vertical to obtain the required grip upon the neck. If the position of the fœtus is such that the neck is not readily accessible, traction upon the presenting arm may remedy the difficulty. If this does not suffice, the arm must be amputated. If the neck still remains out of reach, the remaining arm must be brought into position, and the neck will then be accessible. Should it be impossible to lower the arm, the trunk must be divided. This is not difficult, but two or three sections may be required. Thoraco-abdominal embryotomy with Tarnier's instrument is always possible, always easy, and never dangerous. The experiments of Potocki with this instrument show that it is applicable in the same conditions of contraction as the basiotribe, and that the limits imposed to the Cæsarean operation for longitudinal presentations should be equally imposed for trunk presentations. Clinical facts thus far have shown the efficiency of the rhachidian embryotome. In the course of three years it is known that it has been used in eighteen cases, five of which were fatal; of the latter, three experienced rupture of the uterus prior to the operation, and the other two were already septicæmic before embryotomy was performed. No maternal death has been reported which could be fairly attributed to the use of this instrument.

**Delivery per Vaginam in a Case of Extra-uterine Pregnancy** (Herman, "Anales de Obstetricia, Ginecopatia, y Pediatria," June, 1888).—The author's paper was read before the London Obstetrical Society at the session of November 23, 1887. It was affirmed that no rules could be laid down which would apply to all cases and all periods of extra-uterine pregnancy. Each case requires a distinct treatment, and with every period the therapeutic means will vary. Thirty-three cases have been collected in which there is a record of delivery of the elements of an extra-uterine pregnancy *per vaginam.* A study of these cases has led to the following conclusions:

1. The opening of the extra-uterine gestation sac through the vagina at the beginning of pregnancy, rupture not having occurred, is a dangerous and unscientific procedure.

2. Immediately after the sac has ruptured, when it is necessary to interfere to restrain hæmorrhage, abdominal section should be performed in preference to vaginal.

3. When rupture has taken place and the discharge of blood has been followed by fever, the indications for vaginal incision are the same as in cases of hæmatocele from other causes.

4. When it is apparent that extra-uterine pregnancy will terminate without suppuration, there are various conditions which indicate that delivery by the vagina would be preferable to abdominal section. Such conditions are:

*a.* A head presentation, or presentation of the opposite extremity so that extraction can be accomplished without changing the position of the fœtus.

*b.* When it can be accurately determined by the feel of the tissues that the placenta is not implanted between the presenting portion of the fœtus and the vagina, nor on the anterior wall of the abdomen.

5. Abdominal section should be preferred if extraction by the vagina is impossible without practicing version.

6. No attempts should be made to extract the placenta.

7. The after-treatment should consist of frequent irrigation of the sac.

8. Should suppuration occur during an extra-uterine gestation, one of the most favorable terminations which could occur is spontaneous opening of the sac into the vagina.

**The Identity of Different Forms of Puerperal Infection** (Widal, "El Progreso Ginecologico y Pediatria," July 25, 1888).—Between the streptococcus of puerperal infection and that of erysipelas there exists no appreciable difference, and in the present state of science it is impossible for the experimenter to distinguish one from the other. The *Streptococcus pyogenes* may produce different forms of puerperal infection, and the polymorphism of the lesions which it occasions forms one of the most interesting points in its history. It may infect puerperal women, producing suppuration—the pyæmic form ; it may cause infiltration of the tissues without occasioning the least histological reaction—the septicæmic form ; it may lead to the formation of false membrane—the diphtheritic form ; or cause fibrinous coagula in the veins—phlebitis. In some cases a microbe different from the streptococcus may infect a parturient woman. The results obtained by the author coincided with those obtained by Doyen. Peter observed that puerperal infection had other symptoms in addition to suppuration, and that the former might be present without the latter. Cornil had observed that in the septicæmic variety there was no collection of pus, and yet it was the gravest form of all. Peter thought the pyæmic form was incurable. The streptococcus, it was said, sometimes caused suppuration, at others erysipelas, and at others puerperal septicæmia, which would seem to indicate that the fault lay with the given organism and not with the streptococcus. Cornil, in reply to the one previously mentioned, said that the most pernicious form of the disease was the pyæmic, which appeared a few days after parturition, and was preceded by the formation of deposits of pus in the pelvic cavity, which were primarily local. With respect to the suppuration, the organism supplies the white globules which enter into the process, but the primary cause of the disturbance is the entrance into the tissues of the parasite.

Gueniot had found that the most benign and curable form of this disease was the septicæmic ; the suppurative or peritoneal form was fatal. Verneuil thought that in obstetrics, as in surgery, there were septicæmic affections of all grades, some being curable and others fatal.

**Scarlatina during the Pregnant and Puerperal Periods** (Boxall, "Anales de Obst., Ginecop. y Pediat.," Aug., 1888).—Two classes of cases are considered of those pregnant and parturient women who show a predisposition to infection from scarlatina : (1) those in which infection is received before parturition, and during or after the same ; (2) those in which infection occurs only at the beginning of labor. From an experience of sixteen cases it was deduced that scarlatina among the parturient occurs almost exclusively during the first week of the puerperium, and that in exceptional cases it may occur a little before the beginning of labor.

With reference to the predisposition of a pregnant and parturient woman to scarlatinal infection, and the reciprocal influence which exists between it and parturition, it was thought that a woman who was exposed to the disease might be infected during pregnancy, during parturition, or subsequently. Also that predisposition to the disease is greater a little after parturition and during the first week of the puerperium. If infection occurs during or after parturition the period of incubation will be short. If infection occurs during pregnancy, the period of incubation will be longer than normal.

The author found that there was an apparent analogy, with reference to the appearance of scarlatina, between parturition and the menstrual periods, and drew the following conclusions :

1. That the predisposition to infection is greater a little before, during, or immediately after the menstrual period.

2. That infection which occurs a little before the menstrual period hastens the appearance of the menstrual flow.

3. That when infection occurs during or shortly after a menstrual period, the latter will be shortened.

As to the clinical course of scarlatina during pregnancy and the puerperal period it was observed :

1. That during pregnancy the pharyngeal symptoms are not modified, but after parturition angina is infrequent.

2. If scarlatina occurs after parturition, angina may not be apparent at first, and even in the later stages it may not cause great trouble ; in other cases the signs of inflammation may not be alarming, or may even be absent until the second or third week of the attack. The cervical glands also may be swollen with or without any other trouble in the throat.

Concerning the influence of the scarlatinal poison upon the progress of parturition it was observed :

1. When parturition occurs during the period of incubation of scarlatina it will follow its ordinary course, but the pains will have a greater influence than usual upon the mental condition of the patient ; inertia will probably be present in the last stage of labor and will give rise to characteristic phenomena.

2. If parturition occurs during an attack of scarlatina, the pains will be feeble, inertia will be present, and there will be tendency to hæmorrhage.

The following conclusions were reached as to the effect of the scarlatinal poison upon the puerperium :

1. Involution of the uterus is retarded little if at all.

2. The very slight and transitory sensibility at the fundus of the uterus which is perceptible at the beginning of an attack is almost always due to increased sensitiveness of the pelvic organs, and rarely indicates pelvic inflammation.

3. If antiseptic precautions are adhered to, fissures which may have been sustained during labor will heal satisfactorily.

4. In some cases there may be an odor which is very disagreeable.

5. The lochia will be natural in character and will cease at the proper time, but in some cases this discharge will be very abundant and scarlet in color at the beginning of the attack.

6. The mammary secretion will be diminished in almost all cases, and in some cases will be suspended, on account of the scarlatina.

7. Nursing children show a particular predisposition to contract scarlatina when their mothers have it, and this is probably due to simple contact with their mothers.

8. Should scarlatina appear spontaneously in a given case during pregnancy, the *fœtus in utero* may or may not be affected.

9. If the mother is infected shortly before parturition, the fœtus will in most cases escape at the time, though it may be infected after birth.

**On the Relation between Puerperal Mania and Puerperal Infection** (Hansen, "Ztschr. f. Geb. u. Gyn.," xv, 1).—The result of the author's investigation as to the ætiological significance of infection in relation to puerperal mania includes deductions from an analysis of forty-nine cases of the latter condition. Of that number there were forty-two in which there were somatic symptoms of puerperal infection, and in forty of them the psychosis progressed, and in some cases began, as an acute hallucinatory insanity ; in the other two cases it could only be shown that there had been mania of short duration—so short, indeed, that it could hardly have been anything but hallucinatory. In five of the seven cases in which no puerperal infection could be demonstrated the psychic symptoms were similar in character ; in four, epileptiform spasms had immediately preceded the psychic derangement, and in the fifth there was an acute infectious disease process—namely, well-marked phthisis, and possibly septicæmia also. In the two cases in which neither symptoms of acute infection had been demonstrated nor eclampsia nor epilepsy had preceded, the psychosis assumed a character quite different from that of hallucinatory insanity ; in one it took the form of mania, in the other of melancholy. There is, therefore, ground for the assumption that the greater number of cases of mental disease occurring in women who have borne children a short time before the occurrence of this disease are attributable to puerperal infection, and a smaller portion to eclampsia occurring during labor. It is hardly extravagant to say that when a psychosis occurs in the first weeks of the puerperium in the form of an acute hallucinatory insanity, no other non-puerperal infectious disease being present, and no precedent eclampsia having occurred, one can be convinced that puerperal infection exists, even though fever and other somatic symptoms are not discoverable after careful investigation. Knowledge of this fact certainly has a practical significance, less in a therapeutic direction than in a prophylactic. It can be used by physician, midwife, or maternity hospital for the benefit of future cases of this disease. Puerperal mental disease is a good term if its use is limited to those psychoses which can be assumed to be in relationship with puerperal infection. Of course there are among puerpera as well as among other women mental diseases which come from other causes—for example, psychical affections, epilepsy, alcoholism, scarlatina, etc.—but these form a minority of those who become insane during the first few weeks of the puerperium, and there is no reason for considering the relationship of these diseases to the puerperium as anything but accidental.

# New Inventions, etc.

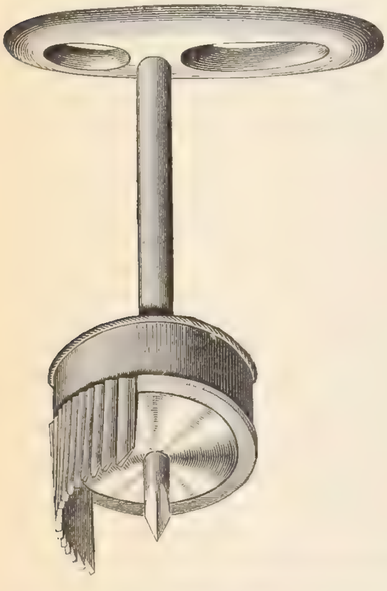
## THE SEGMENT TREPHINE AND AN ASEPTIC TREPHINE *

By John B. Roberts, M. D.,

PROFESSOR OF ANATOMY AND SURGERY IN THE PHILADELPHIA POLYCLINIC.

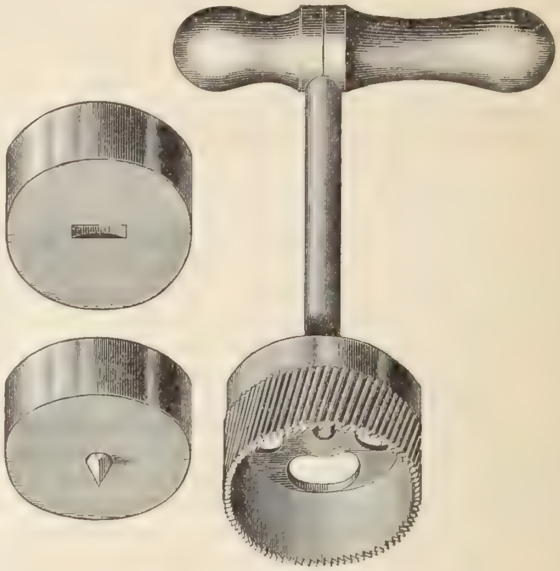
The frequency with which operations are now done upon the skull and brain has made apparent the need of improvement in our instruments for opening the skull. Seven years ago I published † an account of my experiments with the surgical engine as a means of making openings in the skull; and I still believe it an excellent and safe means of effecting entrance to the cranial contents. The chief disadvantages are the expense of the engine and its liability in ordinary hands to get out of order. This latter objection held good at least in one hospital with which I have been associated.

The ordinary trephine, either cylindrical or conical, will probably be used much more frequently, therefore, than the surgical engine; hence suggestions to improve its character are not inadmissible. The "segment trephine," described in the "Operative Surgery of the Human Brain,"‡ is, I think, a valuable instrument with which to deepen any portion of the groove surrounding the button of bone to be removed without cutting along its entire circumference. The skull is often very much thicker in some parts of the area of operation than in others, and the ordinary trephine has to be tilted to avoid injuring the cerebral membranes at the points where the skull is thinest. Tilting is not always easily done when the trephine is large and deeply imbedded in the bone. A "segment trephine" having the same radius of curvature as that with which the operation was begun enables me to cut deeper and with great care at any selected part of the groove. The accompanying illustration renders a detailed description of the instrument unnecessary. The cutting edge extends one third of the circumference, and the center-pin, not requiring retraction, may be immovably fixed to the head of the trephine. The instrument has no groove in the stem, or handle to collect septic matter, and is readily cleaned.



A serious objection to the ordinary trephine is the fact that it is almost impossible to get assistants and nurses to keep the center-pin and the tubular stem in which it slides perfectly aseptic. Indeed, it is difficult, with every intention of perfect cleanliness, to keep the hollow stem of the instrument absolutely clean. I have endeavored to remedy this objection by making the stem solid, and substituting for the ordinary sliding center-pin a circular block of metal, accurately fitting into the crown of the trephine, with a point upon its lower extremity.

As soon as the surgeon has cut a groove deep enough for the teeth of the trephine to be maintained in position upon the skull, the central block is taken out of the crown of the trephine, and the operation continued as with the ordinary instrument, after retracting the center-pin. Upon the upper surface of the block is cut a shallow slot, into which fits a slight projection from the upper part of the trephine crown. This compels the block to rotate with the rest of the trephine when the operator is making the first incision into the bone. The trephine itself is made as thin as possible, in order that the groove between the disc of bone removed and the rest of the skull may be very narrow. The button of bone, when replaced, can then be held in position more readily than if the groove is a wide one. I believe that after using a thin trephine, such as this, it at times will be well to stitch the button of bone into position by catgut sutures passed through the periosteum, which may be allowed to remain upon the surface of the disc of bone, and upon the skull adjacent to the trephine opening.



The crown of the trephine must not be too conical, because such a trephine, in cutting through the thick skull, makes the outer portion of the incision a very wide one. I am inclined to think that a surgeon of even moderate skill never needs a conical trephine to prevent his plunging the instrument into the brain; a cylindrical one should be just as safe in his hands as a conical one. An advantage in having the crown of the trephine slightly conical, when a large instrument is used, is the less liability of the instrument becoming jammed in the groove. This annoyance not infrequently occurs on account of irregularities in thickness of the skull, especially when a large surface is included in the trephine. It is more apt to take place, I think, when the groove is made by a cylindrical instrument, which does not make the external aspect of the incision wider than the internal.

The weight of the metal hand-piece can be minimized by fenestræ, or by making the handle hollow. It is best to attach the hand-piece to the stem eccentrically, as suggested by Horsley, since the hypothenar portion of the palm needs a longer lever than the thenar.

This aseptic trephine, it will be seen, is somewhat similar to the safety trephine of Hopkins,* who suggested the use of a cylindrical block instead of a center-pin, because of the possibility of the surgeon forgetting to withdraw the center-pin, and therefore wounding the dura mater. His device contained a spring to keep the block thrust forward, and was, therefore, very difficult to clean. In fact, it was not constructed with an idea to facilitate asepsis, but to prevent careless puncture of the dura.

## INSTRUMENTS FOR MASSAGE.

Dr. William Murrell says that "massage is a scientific method of treating disease by means of systematic manipulation. The individual muscles or groups of muscles are picked out or isolated, and stimulated to contraction mechanically." In order to do away with the many objectionable features of hand massage, the following-described instruments have been devised, and have, in the hands of trained *masseurs*, proved of sufficient value to warrant their presentation to the profession: Fig. 1 represents a percussor, or hard-wood mallet, which is used on superficial muscles, as of the neck, back, or extremities. These are made in three sizes, and are adapted for use on any superficial muscle or set of muscles. Fig. 2 is a set of rollers of wood, composed of from one to eight; those having one and two, respectively, are spheres covered with soft rubber; the others are discs. By means of these, it is said, a softer and more equable pressure can be obtained than is possible with the finger-tips. They also fit the interstitia better.

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* Read before the Philadelphia County Medical Society, February 27, 1889.

† "Philadelphia Medical Times," 1881–'82, xii, p. 206. ‡ Page 78.

* "Annals of Surgery," July, 1885.

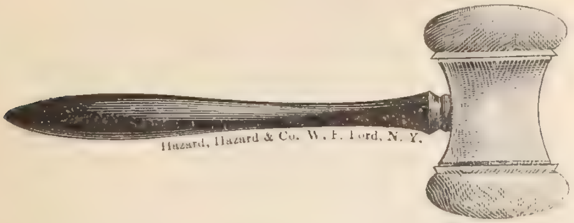
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FIG. 1.

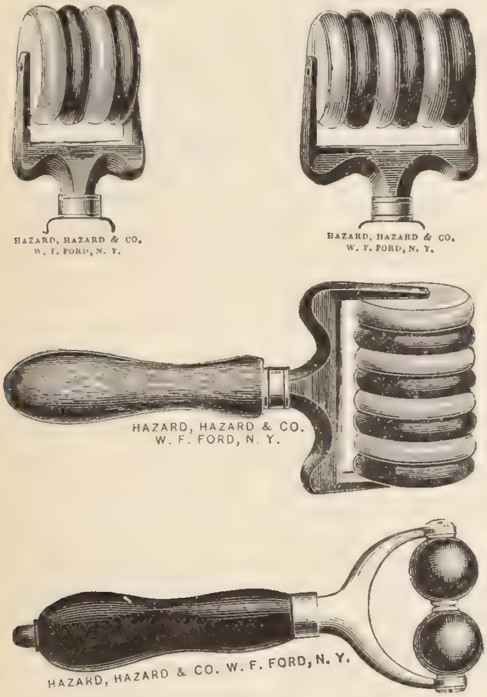
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FIG. 2.

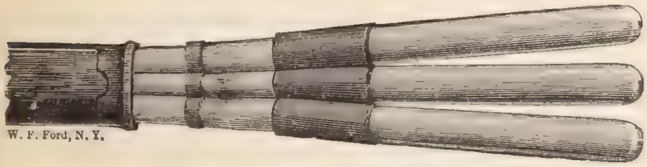

FIG. 3.

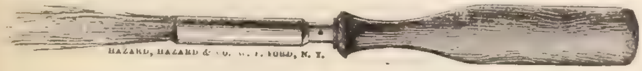
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FIG. 4.

Fig. 3 represents an elastic muscle beater—an instrument of soft rubber, of about eighteen inches in length, which is used in making percussion on the fleshy portions of the body for the purpose of stimulating the muscles or the circulation. Fig. 4 represents a broom-corn electrode, of about fourteen inches in length, which is used in connection with electricity.

In addition to the foregoing instruments, the set includes a hair flesh-brush for friction, and a tourniquet, which is applied to the extremities for the purpose of lessening the pain consequent upon massage of deep-seated sets of muscles. These instruments are manufactured by Mr. W. F. Ford, of Hazard, Hazard, & Co.

## Miscellany.

**Hospitals and the Tax on Alcohol.**—The following correspondence concerns a matter of great importance to hospitals and dispensaries:

ROOSEVELT HOSPITAL, NEW YORK, *March 16, 1889.*

*Messrs. F. O. Boyd & Company.*

GENTLEMEN: In conformity to your request, I hand to you herein a copy of my letter to the Secretary of the Treasury, and his reply thereto, relative to the withdrawal of alcohol from bond without payment of the internal-revenue tax on the same.

Yours very respectfully,
JAMES R. LATHROP, *Superintendent.*

"ROOSEVELT HOSPITAL, NEW YORK, *February 23, 1889.*

"*Honorable Secretary of the Treasury, Washington, D. C.*

"DEAR SIR: At this hospital there are established clinics for the instruction of medical students. It is my understanding that alcohol used in our pathological laboratory for the preservation of specimens may, under the provisions of Section 3297 of the Revised Statutes of the United States, as explained in a circular from your department under date of Washington, D. C., January 2, 1886, be withdrawn in specified quantities from bond without payment of the internal-revenue tax on the same. If you will kindly inform me whether its use may be extended to cover the following purposes you will oblige me:

"1. In the manufacture in our chemical laboratory of tinctures, liniments, and other pharmaceutical preparations for use in the hospital wards and in the out-patient department.

"2. As a lotion for bathing affected parts of the patients under treatment in this hospital and out-patient department.

"3. As an antiseptic wash by the surgeons before and after operations in both departments.

"4. As an antiseptic solution for cleansing surgical instruments.

"5. As an antiseptic solution for preparing and preserving catgut ligatures to be used in surgical operations.

"6. For burning in spirit lamps, principally in the analysis of urine.

"I may add that this hospital in its in-door or ward service or in its out-door (or out-patient) department is an important factor in the instruction of the medical students connected with the College of Physicians and Surgeons (the medical department of Columbia College), located opposite the out-patient department of the hospital.

"Yours very respectfully,
[Signed.] "JAMES R. LATHROP, *Superintendent.*"

2750 A "TREASURY DEPARTMENT,
5 E K "OFFICE OF THE SECRETARY, WASHINGTON, D. C., *March 13, 1889.*

"*Mr. James R. Lathrop, Superintendent of Roosevelt Hospital, New York.*

"SIR: In your letter of the 23d ultimo you inquire whether alcohol when withdrawn from distillery bonded warehouse, under the provisions of Section 3297, R. S., may be used for the following purposes, viz.:

"1. In the manufacture in your chemical laboratory of tinctures, liniments, and other pharmaceutical preparations for use in the hospital wards, and in the out-patient department.

"2. As a lotion for bathing the affected parts of the patients under treatment in the hospital and out-patient department.

"3. As an antiseptic wash by the surgeons before and after operations in both departments.

"4. As an antiseptic solution for cleansing surgical instruments.

"5. As an antiseptic solution for preparing and preserving catgut ligatures to be used in surgical operations.

"6. For burning in spirit lamps, principally in the analysis of urine.

"In reply, you are informed that the ruling of the Department on each of these questions is in the affirmative, provided that the alcohol and the preparations mentioned shall be used in the manner described, and shall never be sold to any person inside or outside the hospital.

"Respectfully yours,

[Signed.] "H. S. THOMPSON, *Acting Secretary.*"

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending March 22d:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| New York, N. Y. | March 16. | 1,558,320 | 363 | .. | .. | .. | .. | .. | .. | 6 | 46 | 47 | 20 | 24 |
| Philadelphia, Pa. | March 16. | 1,040,245 | 405 | .. | .. | .. | .. | .. | .. | 8 | 8 | 6 | 1 | 1 |
| Chicago, Ill. | March 16. | 830,000 | 271 | .. | .. | .. | .. | .. | .. | 4 | 5 | 31 | 6 | 5 |
| Brooklyn, N. Y. | March 16. | 814,505 | 411 | .. | .. | .. | .. | .. | .. | 1 | 7 | 21 | 18 | 12 |
| St. Louis, Mo. | March 16. | 440,000 | 165 | .. | .. | .. | .. | .. | .. | 2 | 1 | 8 | 12 | 2 |
| San Francisco, Cal. | March 8. | 330,000 | 124 | .. | .. | .. | .. | .. | .. | 3 | .. | 3 | .. | .... |
| Cincinnati, Ohio. | March 16. | 255,139 | 141 | .. | .. | .. | .. | .. | .. | 2 | .. | 5 | .. | .... |
| New Orleans, La. | March 9. | 254,000 | 90 | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Detroit, Mich. | March 16. | 250,000 | 69 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 |
| Washington, D. C. | March 16. | 225,000 | 136 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 4 |
| Pittsburgh, Pa. | March 16. | ........ | 90 | .. | .. | .. | .. | .. | .. | 1 | 2 | 5 | 1 | 3 |
| Louisville, Ky. | March 16. | 200,000 | 65 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 4 |
| Newark, N. J. | March 12. | 180,245 | 91 | .. | .. | .. | .. | .. | .. | 3 | .. | 9 | .. | .... |
| Kansas City, Mo. | March 16. | 180,000 | 38 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Minneapolis, Minn. | March 16. | 180,000 | 53 | .. | .. | .. | .. | .. | .. | 1 | 1 | 5 | .. | .... |
| Providence, R. I. | March 16. | 127,000 | 53 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .... |
| Rochester, N. Y. | March 16. | 120,000 | 34 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | 1 | .... |
| Richmond, Va. | March 16. | 100,000 | 43 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Denver, Col. | March 15. | 100,000 | 25 | .. | .. | .. | .. | .. | .. | .. | 1 | 4 | .. | .... |
| Toledo, Ohio | March 15. | 80,000 | 27 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | .... |
| Camden, N. J. | March 7. | 70,000 | 25 | .. | .. | .. | .. | .. | .. | 4 | .. | 1 | .. | .... |
| Nashville, Tenn. | March 16. | 65,153 | 19 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Fall River, Mass. | March 16. | 65,000 | 34 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Charleston, S. C. | March 16. | 60,145 | 34 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | .... |
| Lynn, Mass. | March 16. | 50,000 | 20 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Manchester, N. H. | March 9. | 42,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me | March 16. | 40,000 | 17 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Council Bluffs, Ia. | March 9. | 35,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Davenport, Ia. | March 16. | 33,715 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| E. Saginaw, Mich. | March 16. | 33,000 | 16 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .... |
| Auburn, N. Y. | March 16. | 26,000 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass. | March 16. | 25,000 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newport, R. I. | March 14. | 22,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Keokuk, Ia. | March 16. | 16,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**The Illinois State Board of Health.**—The Governor of Illinois, in his biennial address to the General Assembly, pays a well-merited tribute to the labors of the State Board of Health. In the course of this address he wisely gives prominence to the continuance of a system of house-to-house inspection, which was inaugurated as a means of defense against cholera in 1883, and which has been maintained ever since; and he points out that the cities, towns, and villages of the State have, in consequence of this work, steadily improved in their sanitary condition, until it can now be asserted that Illinois exhibits the healthiest and most favorable circumstances, in so far as length of life is concerned, of any that are enjoyed in the Union. This we can readily understand, for in this country it has again and again been shown that house-to-house inspection by sanitary officers, under competent medical supervision, is one of the most valuable of all forms of sanitary work. Quarantine in a modified sense is said to have been of value to the State, but the Governor congratulates the Secretary of the Board for having refused help from the public treasury for the maintenance of restrictions which were unnecessary, and opposed to scientific experience. The labors of the State Board in connection with the small-pox epidemic of 1881–'82 are spoken of in terms of commendation, and it is held that through the preventive and protective measures then adopted, and since enforced, there has been no repetition of the disease in an epidemic form. We conclude that these measures aim at securing universal infantile vaccination, and the repetition of the operation later on in life; for apart from this we can not but feel that present experience is against any trust in escape from the disease; and as to the case quoted, it is perhaps somewhat early to feel any sense of security, especially in the case of a disease which has so often exhibited somewhat lengthened periods of quiescence between its epidemic appearances.—*Lancet.*

**Ignipuncture of the Tonsils.**—According to the "Lancet," "Dr. Wilhelm Roth, of Fluntern, finds that, in order to reduce the size of the tonsils without risk of troublesome hæmorrhage, which is not uncommon, especially in young subjects, the best plan is to employ ignipuncture, as has been recommended by Krishaber, and more recently by Verneuil. The tonsils and neighboring parts are first brushed over with a ten-to-twenty-per-cent. solution of cocaine. The finest point of the thermo-cautery, heated to redness, is then inserted to a depth of about five millimetres in three or four spots a few millimetres apart from one another on the tonsils. The instrument is not allowed to remain more than one or two seconds in the tissue. The whole operation, including both tonsils, can be performed in a very few minutes without any bleeding, and with scarcely any pain. It must be repeated four or five times at intervals of two or three days, and this is usually sufficient to cause the tonsils to return to their ordinary condition."

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**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Original Communications.

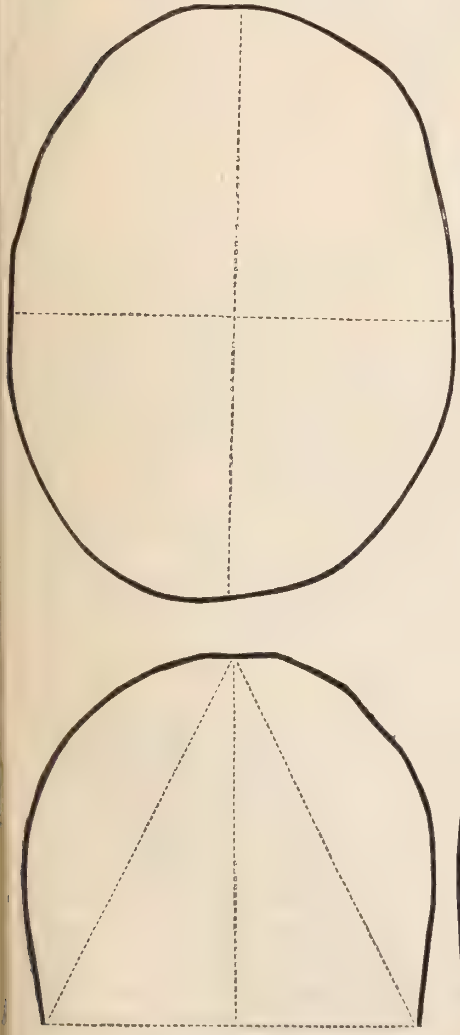
# CRANIAL MEASUREMENTS
### IN TWENTY CASES OF
# INFANTILE CEREBRAL HEMIPLEGIA.*

By FREDERICK PETERSON, M. D., and
E. D. FISHER, M. D.

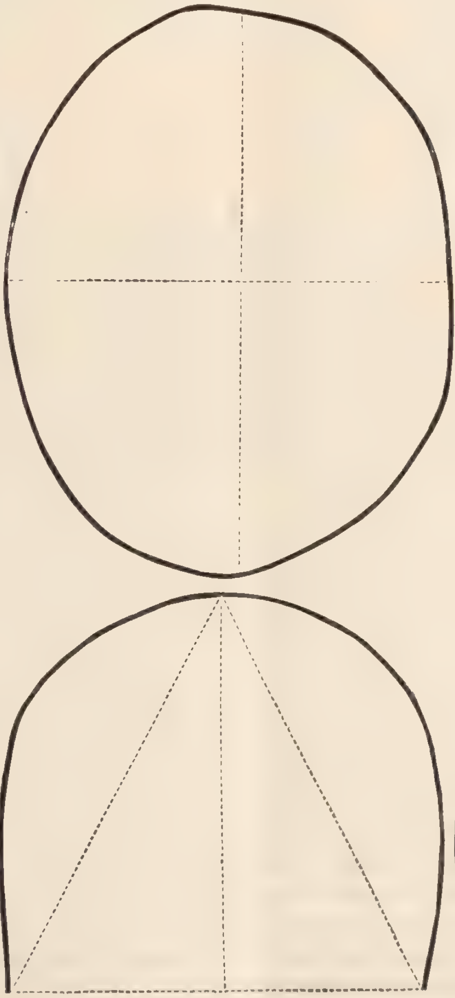
### PART I, BY DR. PETERSON.

Some time ago I had the honor of reading before the New York Neurological Society an article upon the subject of craniometry,† embodying some of the results of my own labors in this field for some years as well as those of the invaluable researches of other investigators. Among the tenets of this paper was one that every segment of the skull represents some particular part of the brain lying beneath it, and that though single convolutions may have no very marked influence upon the external configuration of the cranium, yet groups of convolutions do modify the shape of the skull, do possess visible representation upon its outer surface. Thus the parietal eminences correspond to the sensory-motor cortical areas; the dimensions of the forehead are directly related to the higher intellectual substrata of the frontal lobes; the sight memories of the occipital and the auditory memories of the temporo-sphenoidal lobes undoubtedly modify the curves and expanse of the cranium lying contiguous to them. Benedikt ‡ showed in one case a depression of the left temple in congenital aphasia. Abnormal smallness of any part of the skull is indicative of imperfect development of brain in its neighborhood. It has long been known that deformities of the skull and brain are often produced by premature synostoses of one or more sutures, a discovery we owe to Virchow. But an arrest of development in any center of ossification, or in any part of the brain, a unilateral aplasia or hyperplasia of the skull bones or of the contents of the skull, will lead to similar malformations.

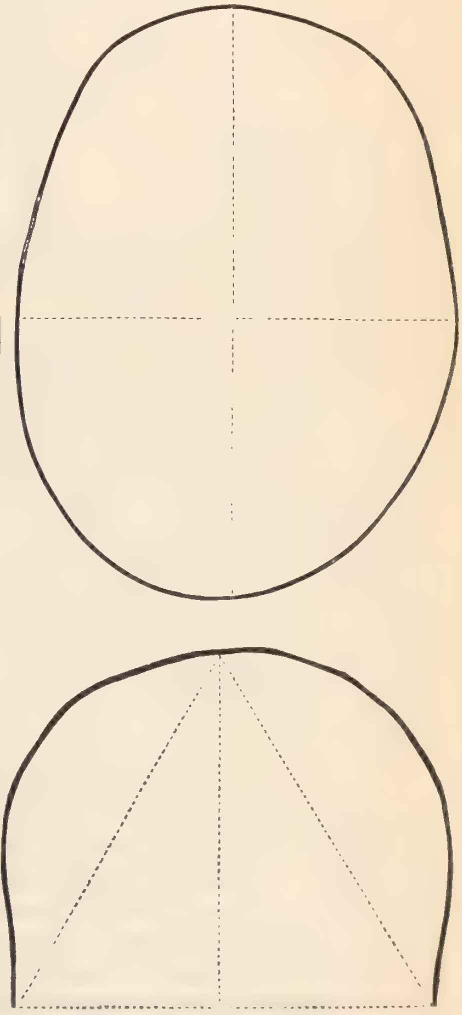
Benedikt called attention to the frequency of leptocephalus and macrocephalus in hemiplegia and paraplegia spastica infantilis, and to the frequency of asymmetry in the first-mentioned disease. On examining some of these cases of infantile spastic hemiplegia myself, I found the asymmetry mentioned by Benedikt, and saw that it was due, as a rule,



I.—J. W., male, aged 32. *Left* hemiplegia from age of 3 years; epilepsy.



II.—M. K., male, aged 29. *Left* hemiplegia from birth; epilepsy.



III.—J. H., male, aged 36. *Right* hemiplegia from age of 3 years; epilepsy.

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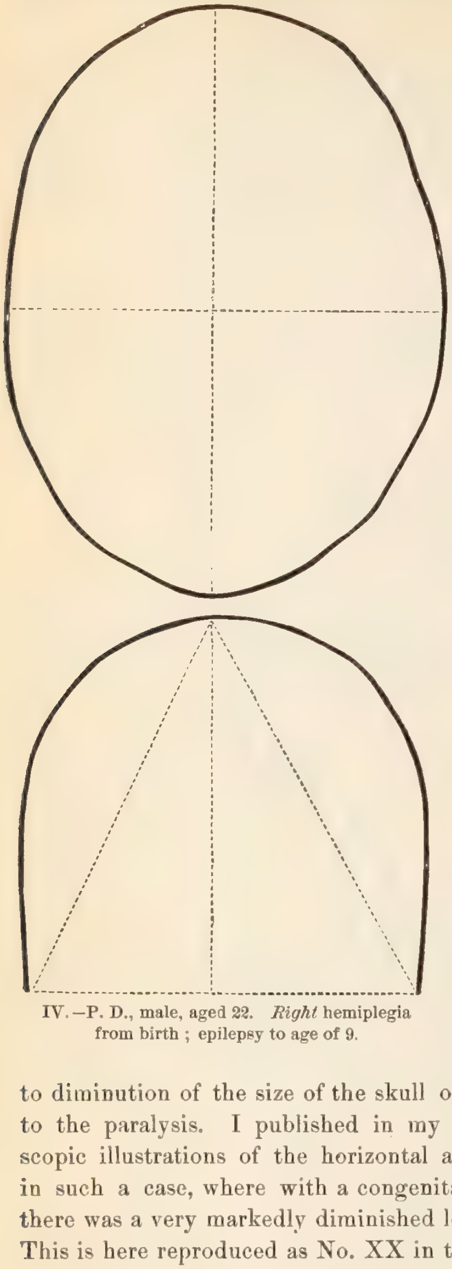
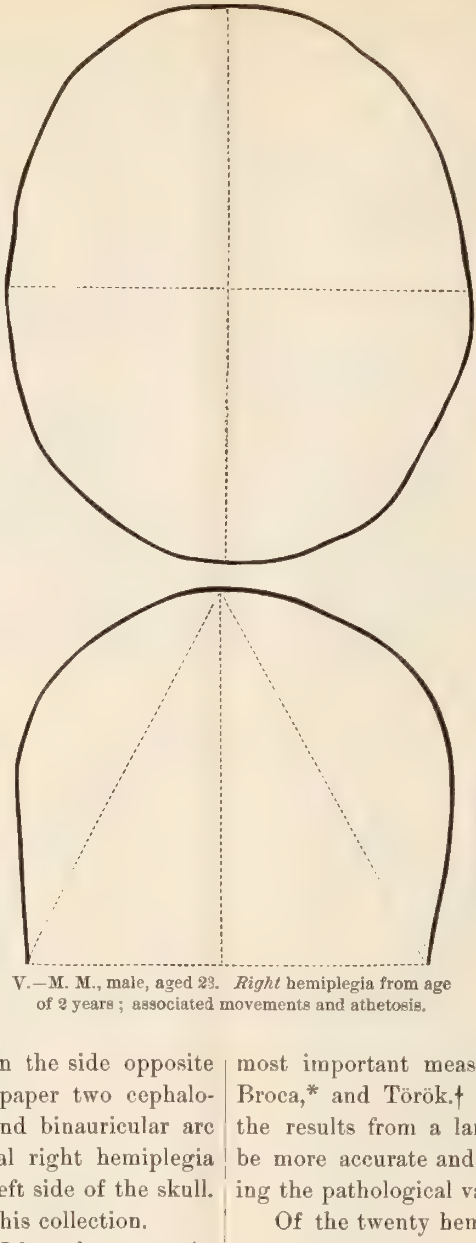
* Read before the Medical Society of the State of New York at its eighty-third annual meeting.

† "Some of the Principles of Craniometry," "Med. Record," June 23, 1888.

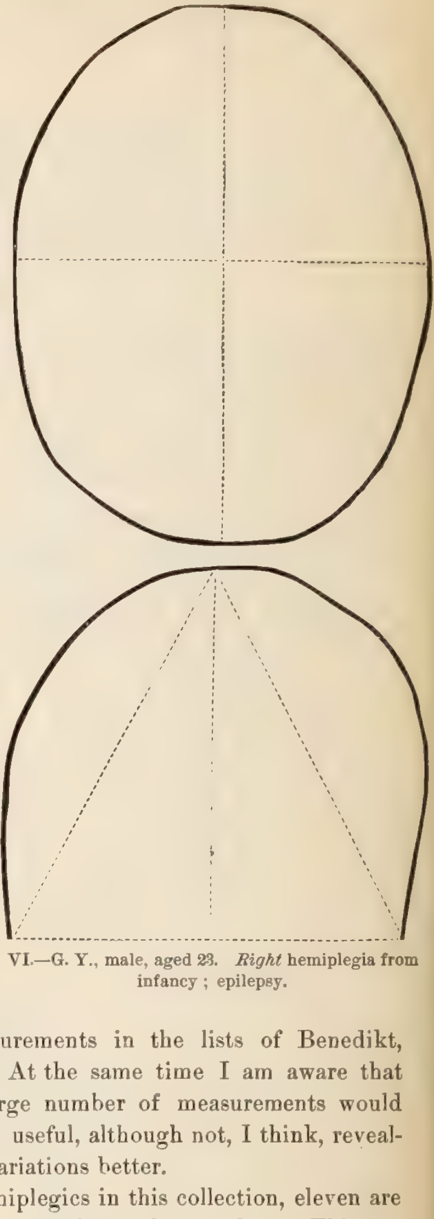
‡ "Kraniometrie und Kephalometrie," 1888.



IV.—P. D., male, aged 22. *Right* hemiplegia from birth; epilepsy to age of 9.



V.—M. M., male, aged 23. *Right* hemiplegia from age of 2 years; associated movements and athetosis.



VI.—G. Y., male, aged 23. *Right* hemiplegia from infancy; epilepsy.

to diminution of the size of the skull on the side opposite to the paralysis. I published in my paper two cephaloscopic illustrations of the horizontal and binauricular arc in such a case, where with a congenital right hemiplegia there was a very markedly diminished left side of the skull. This is here reproduced as No. XX in this collection.

Through the kindness of Dr. Fisher I have been permitted to draw upon his large material at the New York city almshouse for eighteen cases of hemiplegia, either congenital or occurring in the first two or three years of life, previous to sutural union and to the perfect evolution of the skull. They had all attained the adult age, the average being twenty-seven years.

The cranial measurements and drawings of these, together with those of two of my own, make the twenty which are here presented to-day.

The cephalometrical figures and drawings were obtained according to the methods I described in the paper already alluded to, and the series of measurements is one that I have selected and arranged in the accompanying tabular form.

I have carefully selected the above-named arcs and diameters from the immense number given by various anthropologists, and believe that they are sufficiently simple for use by any physician who desires to make a scientific cephalometrical study of any head. They are the most important measurements in the lists of Benedikt, Broca,* and Török.† At the same time I am aware that the results from a large number of measurements would be more accurate and useful, although not, I think, revealing the pathological variations better.

Of the twenty hemiplegics in this collection, eleven are adult males, eight adult females, and one a boy. Thirteen are right and seven left hemiplegics. The following is a table of the measurements of their heads as compared with the average normal male and female heads and the standards of physiological variation.

As regards the circumference, I find that all but five of the twenty—one man and four women—are below the normal averages, while two—one man and one woman—are even below the limit of physiological variation, and two women just at the lowest point of variation. It is to be borne in mind that some cases exhibit distinct macrocephalus, although that is not present in any of these. Benedikt considers it quite frequent and due to hydrocephalus. The only man in this collection presenting a circumference above the average had but three millimetres in addition, and of the four women, one was

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* "Instructions craniologiques de la Société d'Anthropologie," *et al.*

† "Ueber ein Universal-Kraniometer."

COMPARATIVE MEASUREMENTS IN TABULAR FORM OF NORMAL MALE AND FEMALE HEADS AND THOSE OF TWENTY CASES OF HEMIPLEGIA SPASTICA INFANTILIS.

| | NORMAL HEAD. | | | MEN. | | | | | | | | | | | | | WOMEN. | | | | | | | | | | BOY. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average in adults, in centimetres. | | Physiological variation. | I. | II. | III. | IV. | V. | VI. | VII. | VIII. | IX. | X. | XI. | Men's average. | Remarks. | XII. | XIII. | XIV. | XV. | XVI. | XVII. | XVIII. | XIX. | Women's average. | Remarks. | XX. |
| | Males. | Females | | | | | | | | | | | | | | | | | | | | | | | | | |
| Circumference | 55 | 53 | 51·5–60·4 | 55·3 | 53·5 | 54·0 | 54·0 | 53·0 | 51·0 | 54·0 | 53·0 | 54·5 | 54·5 | 54·0 | 53·7 | Below normal average. | 53·5 | 48·5 | 51 5 | 53·0 | 52·0 | 54·0 | 51·5 | 54·5 | 52·3 | Below normal average. | 47·0 |
| Volume | 1500 | 1300 | 1201-1751 | 1508 | 1460 | 1472 | 1472 | 1455 | 1390 | 1472 | 1455 | 1486 | 1486 | 1472 | 1466 | Below normal average. | 1310 | 1128 | 1261 | 1298 | 1274 | 1323 | 1261 | 1335 | 1281 | Below normal average. | 1151 |
| Naso-occipital arc | 35·0 | 34·0 | 31·0–41·0 | 36·5 | 35·0 | 34·0 | 34·0 | 35·0 | 32·0 | 35·0 | 34·5 | 37·5 | 34·0 | 33·0 | 34·5 | Below normal average. | 32·5 | 30·0 | 32·0 | 32·0 | 31·0 | 34·0 | 34·0 | 31·5 | 32·1 | Below normal average. | 31·0 |
| Naso-bregmatic arc | 12·5 | 12·0 | 10·9–14·9 | 12·0 | 13·0 | 12·0 | 11·5 | 12·5 | 12·5 | 13·5 | 13·0 | 13·0 | 13·0 | 13·0 | 12·6 | Above normal average. | 11·5 | 10·0 | 11·0 | 10·5 | 11·0 | 12·5 | 12·0 | 12·0 | 11·3 | Below normal average. | 9·7 |
| Bregmato-lambdoid arc | 12·5 | 11·9 | 9·1-14·4 | 12·0 | 13·0 | 13·0 | 12·5 | 13·0 | 10·0 | 10·5 | 11·0 | 12·0 | 15·0 | 13·0 | 12·2 | Below normal average. | 14·0 | 12·5 | 12·0 | 12·0 | 12·0 | 12·0 | 11·0 | 12·0 | 12·1 | Above normal average. | 8·6 |
| Binauricular arc | 35·0 | 34·0 | 31·4–38·0 | 35·5 | 35·0 | 32·0 | 33·0 | 35·0 | 35·0 | 33·0 | 33·5 | 34·5 | 36·0 | 35·0 | 34·3 | Below normal average. | 30·0 | 31·0 | 31·5 | 35·0 | 31·5 | 33·5 | 33·5 | 35·0 | 32·6 | Below normal average. | 29·0 |
| Antero-posterior diameter. | 18·7 | 18·2 | 17·5–20·0 | 19·4 | 18·1 | 18·9 | 18·3 | 18·0 | 17·3 | 18·5 | 18 1 | 18·9 | 18·0 | 17·5 | 18·2 | Below normal average. | 18·6 | 16·8 | 18·0 | 17·5 | 17·9 | 18·7 | 17·9 | 17·9 | 17·9 | Below normal average. | 16·3 |
| Greatest transverse diameter. | 15·6 | 15·0 | 14·0–17·5 | 14·4 | 14·0 | 14·3 | 14·0 | 15·2 | 13·9 | 14·5 | 13·8 | 14·5 | 15·5 | 15·0 | 14·4 | Below normal average. | 14·0 | 13·5 | 14·0 | 14·7 | 14·0 | 14·4 | 13·9 | 15·7 | 14·2 | Below normal average. | 13·1 |
| Length-breadth index. | 82·2 | 83·8 | 76·1–87·0 | 74·2 | 77·3 | 76·0 | 76·5 | 84·4 | 80·3 | 78·3 | 76·2 | 76·7 | 86·1 | 85·7 | 79·2 | Below normal average. | 75·2 | 80·3 | 77·7 | 84·0 | 79·8 | 77·0 | 77·6 | 87·7 | 79·9 | Below normal average. | 80·3 |
| Binauricular diameter | 13·1 | 12·6 | 11·6–14·6 | 11·5 | 12·3 | 12·4 | 11·5 | 13·0 | 11·4 | 12·0 | 10·8 | 12·2 | 12·1 | 12·8 | 12·0 | Below normal average. | 11·5 | 11·0 | 11·3 | 11·8 | 12·0 | 11·5 | 11·0 | 11·5 | 11·4 | Below normal average. | 10·1 |
| Height, $\beta x$ | 12·2 | ...... | 10·5–13·1 | 13·5 | 12·5 | 12·0 | 12·0 | 12·4 | 12·8 | 12·0 | 12·3 | 12·5 | 13·0 | 13·1 | 12·5 | Above normal average. | 11·6 | 11·2 | 11·0 | 12·3 | 11·5 | 11·6 | 12·0 | 12·2 | 11·6 | .............. | 11·1 |
| Facial length | 12·37 | ...... | 10·5–14·4 | 12·0 | 12 0 | 13·0 | 11·6 | 12·0 | 12·1 | 12·5 | 12·2 | 12·2 | 11·4 | 13·0 | 12·1 | Below normal average. | 12·0 | 10·8 | 9·9 | 11·6 | 11·5 | 10·2 | 11·1 | 11·4 | 11·0 | .............. | 9·0 |
| Empirical greatest height | 13·8 | 12·8 | 12·0–15·5 | 15·2 | 13·2 | 13·0 | 12·3 | 14·0 | 12·6 | 13·5 | 13·4 | 14·5 | 14·4 | 13· | 13·6 | Below normal average. | 12·8 | 11·5 | 12·3 | 12·3 | 11·3 | 12·5 | 12·7 | 12·7 | 12·2 | Below normal average. | |

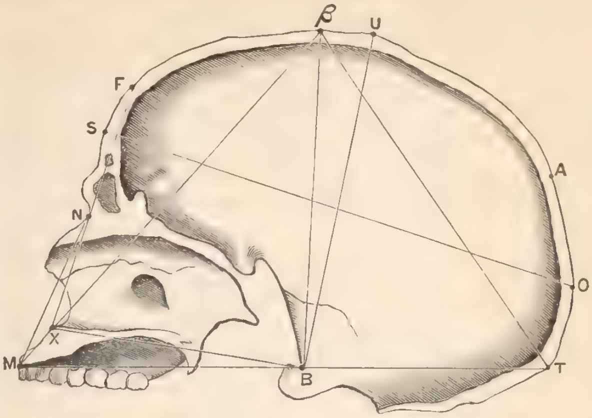
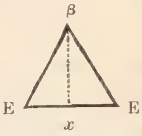


TABLE OF CRANIOMETRICAL MEASUREMENTS.

| | Average in adult, in centimetres. | | Physiological variation. | Remarks. |
|---|---|---|---|---|
| | Males. | Females | | |
| 1. Circumference | 52 | 50 | 48·5–57·4 | Roughly approximated, the volume is to the circumference as 1350 ccm. is to 50 cm. |
| 2. Volume | 1500 | 1300 | 1201–1751 | |
| 3. Naso-occipital arc | 32 | 31 | 28–38 | In figure, *n* to *t*. |
| 4. Naso-bregmatic arc. | 12·5 | 12 | 10·9–14·9 | *n* to $\beta$. |
| 5. Bregmato-lambdoid arc. | 12·5 | 11·9 | 9·1–14·4 | $\beta$ to *a*. |
| 6. Binauricular arc | 32 | 31 | 28·4–35 | |
| 7. Antero-posterior diameter. | 17·7 | 17·2 | 16·5–19 | *s* to *o*. |
| 8. Greatest transverse diameter. | 14·6 | 14 | 13–16·5 | The formula for the length-breadth index is Length : breadth :: 100 : *x*. An index below 78 is dolicocephalic, 78 to 80, mesocephalic, above 80 brachycephalic. |
| 9. Length-breadth index. | 82·2 | 83·8 | 76·1–87 | |
| 10. Binauricular diameter. | 12·4 | 11·9 | 10·9–13·9 | The height $\beta x$ of the triangle E$\beta$E, form'd by the auriculo-bregmatic radii and the binauricular diameter, averages 11·7, with a variation from 10 to 12·65.  β E E x |
| 11. Auriculo-bregmatic radii. | | | | |
| 12. Facial length | 12·37 | | 10·5–14·4 | From root of nose, *n*, to lowest part of chin. |
| 13. Empirical greatest height. | 13·3 | 12·3 | 11·5–15 | The empirical greatest height, $b\beta$ is obtained by measuring the sides of the triangle $m\beta t$. |

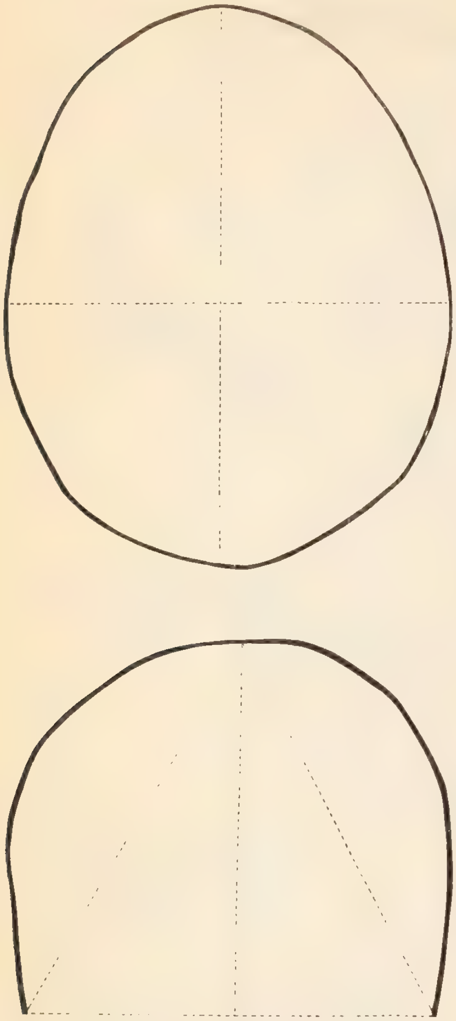
These measurements are those of the adult human skull. As the hair and scalp superadd about three cm., about six per cent. should be deducted in the head measurements Nos. 1, 3, and 6, to obtain those of the skull. In taking the diameters Nos. 7 and 8, deduct one centimetre (the scalp averaging 5 mm. in thickness), and from the shorter radii, such as Nos. 10 and 11, subtract but 7 mm.

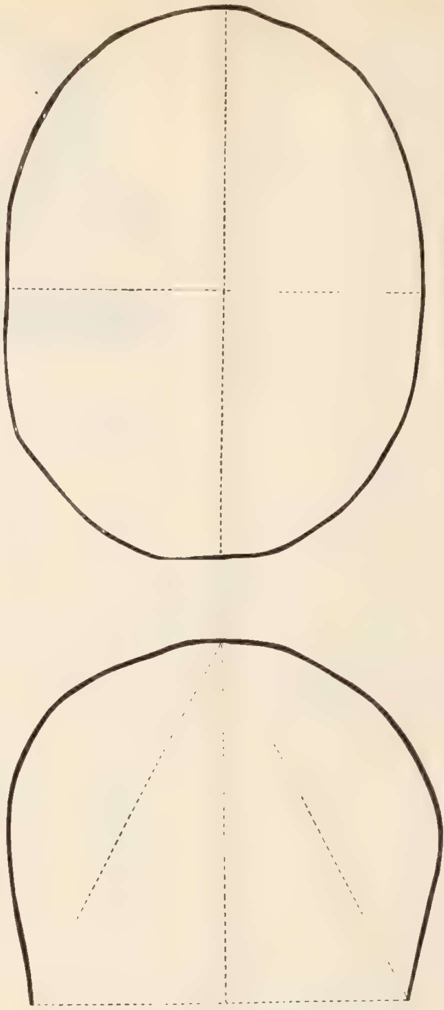
exactly the average, and the highest excess was 1·5 ctm. Taking the averages of the eleven men and eight women, we find the aggregate below the averages of the normal male and female heads.

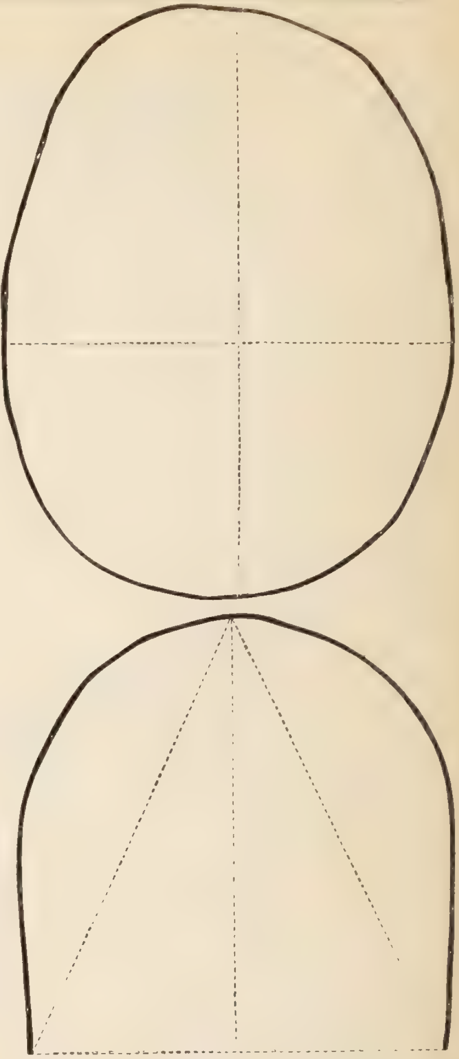
As the empirical determination of the *volume* depends upon the circumference, what has been said of the latter applies with equal significance to the former.

The naso-occipital arc is diminished in six men and six women, while one woman is below the physiological variation. The averages of the eleven men and eight women are under the normal averages of the two sexes.

The naso-bregmatic arc is below the normal averages in three men and five women, but the average of the eleven men is one millimetre above the normal, and that of the


VII.—W. H. T., male, aged 27. *Right* hemiplegia from infancy; epilepsy.


VIII.—F. A. F., male, aged 26. *Left* hemiplegia from infancy; epilepsy.


IX.—G. T., male, aged 26. *Left* hemiplegia from infancy; epilepsy; cranium proganæum.

eight women seven millimetres below. Two women are so low as to be outside of the physiological variation.

The bregmato-lambdoid arc is under the normal in five men. The average of the eleven men is below, and that of the eight women four millimetres above the normal sexual averages. It is this arc which Benedikt claims is diminished in cases of ordinary epilepsy, but this probably does not apply to the meta-hemiplegic variety exhibited in seventeen of these cases.

The binauricular arc is diminished in five men and six women, the total averages of each sex being also below the normal standards. Two of the women are under the extreme of physiological variation.

The antero-posterior diameter is less than the normal averages in eight men and six women, and below the physiological extreme in one man and one woman. The total average of the eleven men and eight women are below the normal sexual standards.

The greatest transverse diameter is below the normal average in all the men and all but one of the women, showing the tendency toward leptocephalus, or narrow-headedness, in this form of hemiplegia pointed out by Benedikt. Under the physiological variation are four men and two women, or more than 30 per cent.

As regards the relation of length to breadth, the length-breadth or cephalic index, eight men and six women are below the average. Six men and four women are dolichocephalic, one man and two women mesaticephalic, and four men and three women brachycephalic. Two men and one woman exhibit dolichocephaly outside of the physiological variation, while one woman presents pathological brachycephaly. Taking the average of the cephalic indices of the nineteen adults, they are all below the average brachycephalic condition and are mesaticephalic.

The binauricular diameter is under the normal standards in all the men and all the women. This being but another transverse diameter, corroborates the result of the measurements of the greatest transverse diameter—viz., the inclination to leptocephalus before mentioned. In four men and six women, or more than 50 per cent., this tendency is so marked that the binauricular diameters are actually outside of the physiological extremes.

The height bregma-$x$ is diminished in three men and pathologically increased in one. Unfortunately, there is no normal female average as yet determined with which to compare the women.

The facial length is below the average in nine men. We have as yet no statistics as to the normal average in women.

The empirical greatest height is under normal standards in seven men and seven women, and the total averages diminished in all nineteen. Two women present pathological minima.

There are no accurate data accumulated as yet with regard to normal standards in infancy and youth; hence the measurements of the boy's head do not admit of comparison.

In many of the cases unusual prognathism is apparent in variable degree, and in some are deformities of the palate and jaws.

Now, if each case be examined singly with reference to normal cephalometrical standards, we find that pathological conditions stand out more prominently than in the aggregate analysis.

Case No. I, which in many of its measurements surpasses the normal average and which is the greatest of the twenty cases in circumference and volume, exhibits pathological variation in the cephalic index (74·2), binauricular diameter (11·5), and height ($\beta x$ 13·5).

Case No. III presents pathological divergence in the cephalic index (76).

Case No. IV has a binauricular diameter outside of the physiological limits (11·5).

Case No. VI exhibits pathological variation in the antero-posterior diameter (17·3), greatest transverse diameter (13·9), and binauricular diameter (11·4).

Case No. VIII shows an abnormal divergence from the physiological limits in the greatest transverse diameter (13·8), and in the binauricular diameter (10·8).

Case No. X presents pathological excess in the bregmato-lambdoid arc.

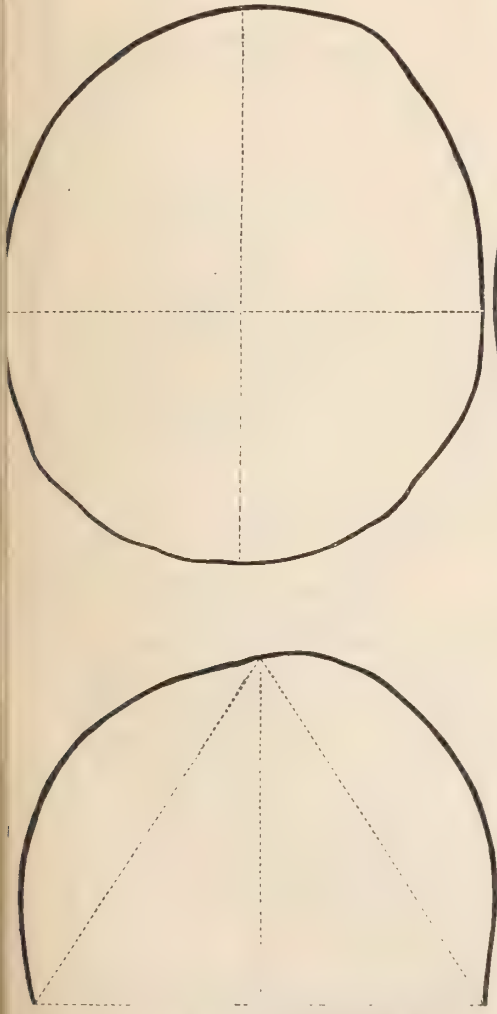
Case No. XII is pathological in its binauricular arc (30), cephalic index (75·2), and binauricular diameter (11·5).

Case No. XIII exhibits pathological variation from normal standards in circumference (48·5), volume (11·28), naso-occipital arc (30), naso-bregmatic arc (10), binauricular arc (31), antero-posterior diameter (16·8), greatest transverse diameter (13·5), binauricular diameter (11), and empirical greatest height (11·5)—in fact, most of the measurements.

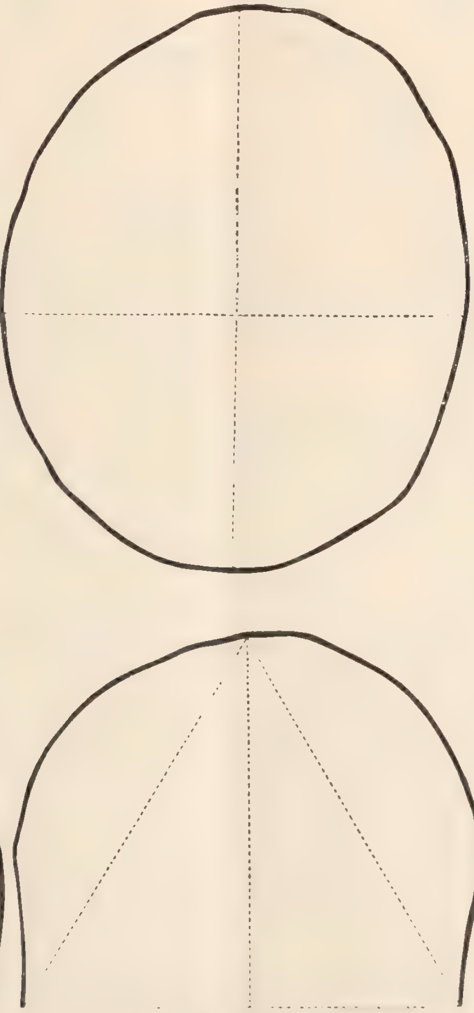
Case No. XIV is pathological in its binauricular diameter (11·3) and facial length (9·9).

Case No. XV presents an abnormal minimum in the naso-bregmatic arc (10·5).

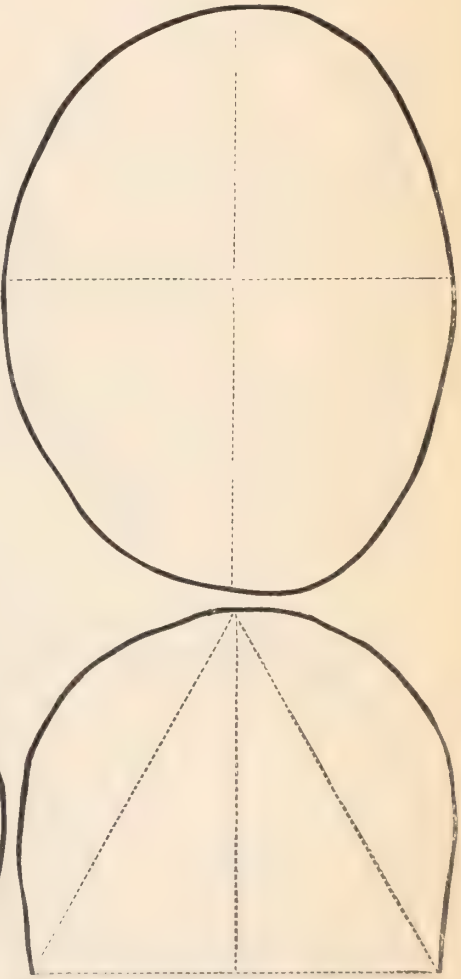
Case No. XVI is pathological in its empirical greatest height (11·3).



X.—H. H., male, aged 18. *Right* hemiplegia from age of 3; epilepsy.



XI.—J. K., male, aged 20. *Right* hemiplegia from infancy; epilepsy.



XII.—M. T. T., female, aged 20. *Right* hemiplegia since age of 3; epilepsy.

Case No. XVII shows morbid deficiency in the binauricular diameter (11·5) and facial length (10·2).

Case No. XVIII exhibits pathological variation in the greatest transverse diameter (13·9) and binauricular diameter (11).

Case No. XIX is pathologically excessive in the cephalic index (87·7) and deficient in the binauricular diameter (11·5).

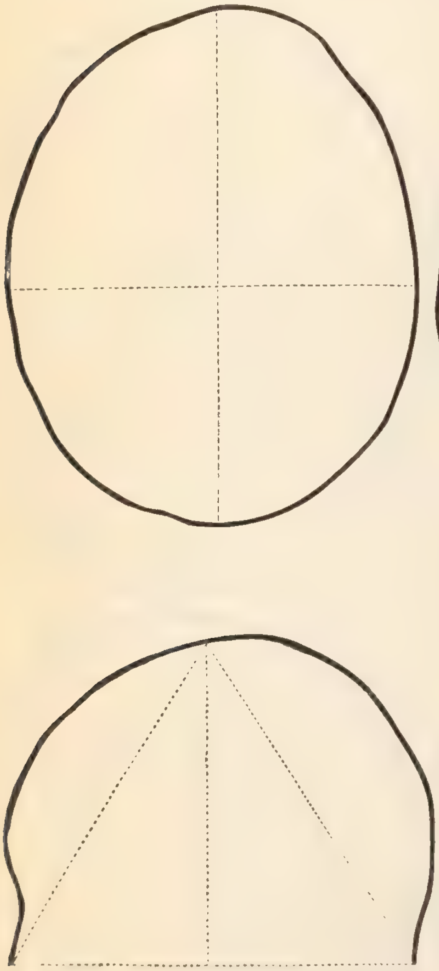
From this it will be seen that all of the cases taken in the aggregate have skulls which fall below the normal average in nearly every measurement, while in fourteen of the nineteen cases the variation is outside of the physiological limits in some of the arcs or diameters.

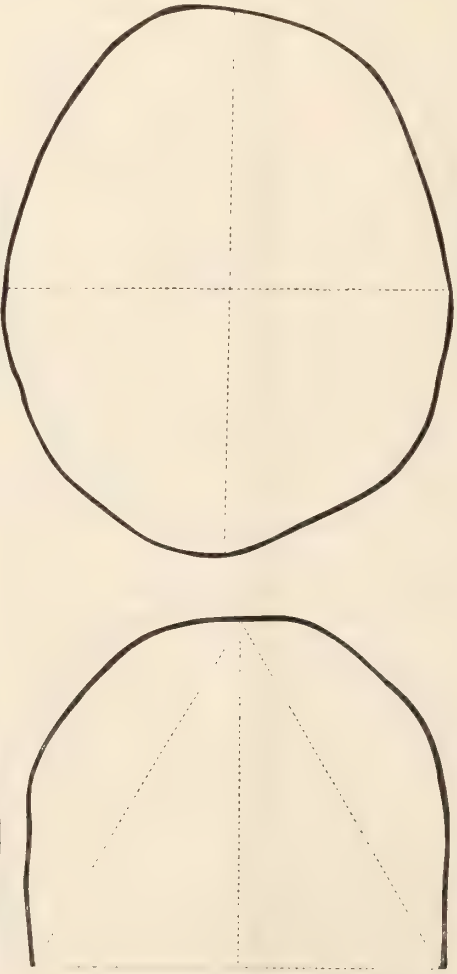
Besides the mathematical data, three cephaloscopic delineations were taken in each case. The naso-occipital arcs are drawn in such a manner as to give an almost composite view of this arc in each sex, and the slight deviations that exist are perceptible at a glance. Their only value is merely for comparison with normal standards, from which they differ chiefly in length, and hence they are not reproduced here.

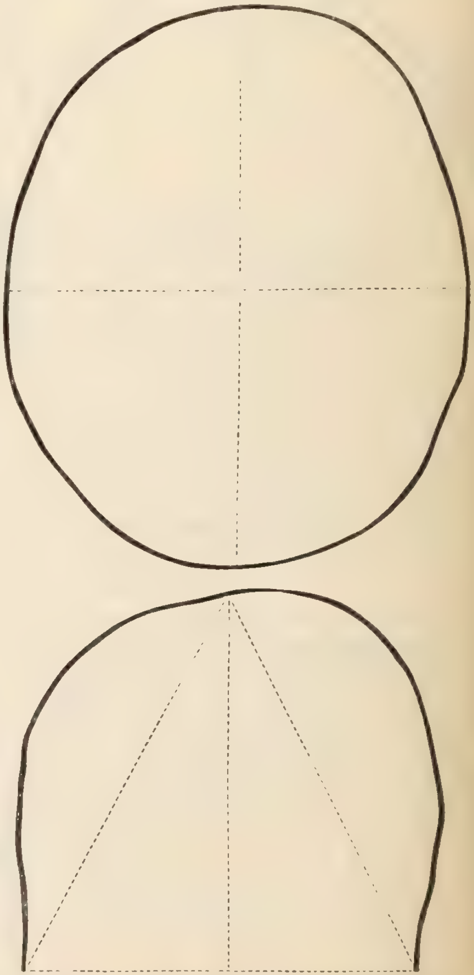
The horizontal circumference was taken through the points which give the antero-posterior diameter — viz., around the glabella and the maximum occipital point about an inch above the occipital protuberance. Although this is somewhat below the arcs which would be described around the mid-region of the motor areas, and which would naturally better characterize the pathological change of cranial outline, yet in every one of these drawings a variation is observable between the right and left semicircles, in some slight and in others very marked, the diminution being always on the side of the lesion, and therefore opposite to the paralyzed half of the body. The fact of the existence of epilepsy in cases of hemiplegia is probably significant of an irritative and not a destructive lesion of the cortex; and hence it is natural to infer that the unilateral differences in the brain and skull would be greater in such hemiplegias without epilepsy.

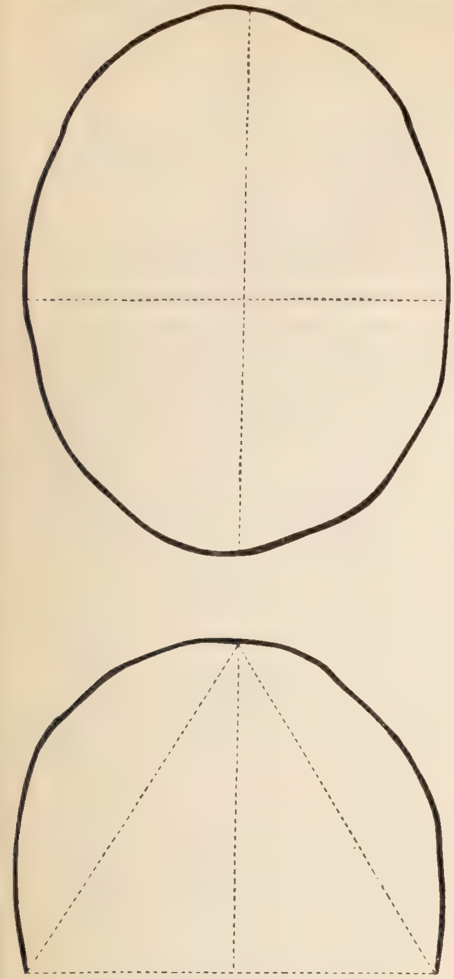
The binauricular arcs were taken, as usual, between the anterior rims of the auditory meatuses, and, by their greater contiguity to the motor areas, present rather more distinctly the unilateral differences than do the right and left horizontal semicircles. Each binauricular arc exhibits a diminished quadrant on the side of the lesion. The pathological variations in the quadrants are often more marked in these cases when the arc is described behind the auditory meatuses from one mastoid process to the other, for thus the chief portions of the Rolandic areas are traversed; but the arcs taken are a sufficient demonstration of the facts stated.

In conclusion I would make the following summary:

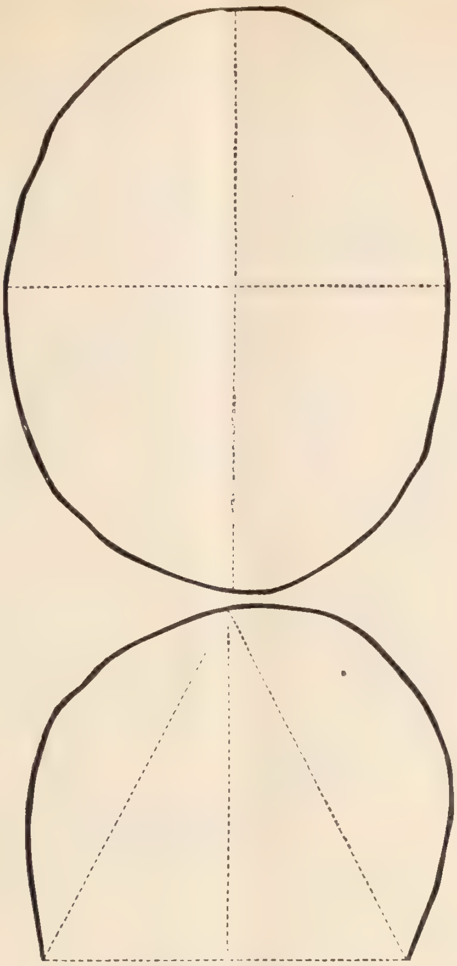

XIII.—M. W., female, aged 26. *Right* hemiplegia from infancy; epilepsy.


XIV.—M. G., female, aged 32. *Left* hemiplegia from infancy; no epilepsy; constant clonus of left peronei.

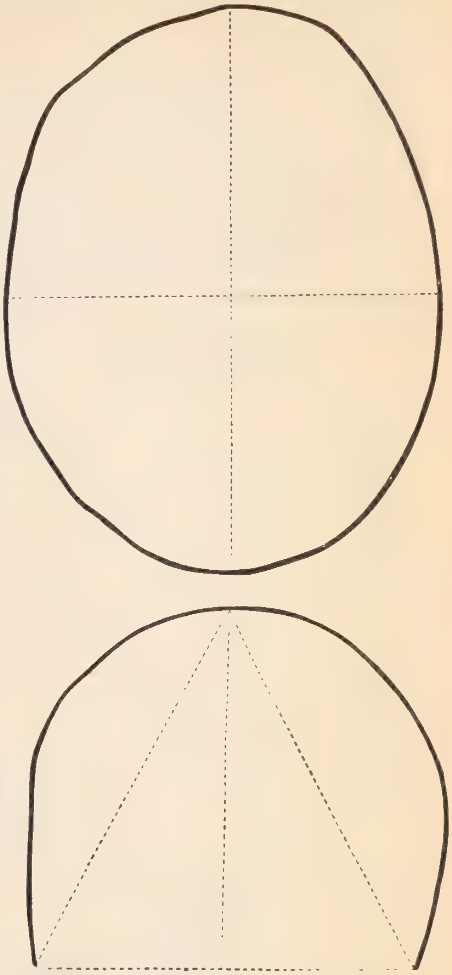

XV.—C. W., female, aged 28. *Right* hemiplegia from infancy; no epilepsy.



XVI.—I. C., female, aged 33. *Left* hemiplegia from infancy; epilepsy.



XVII.—M. C., female, aged 17. *Right* hemiplegia from birth; epilepsy.



XVIII.—S. K., female, aged 30. *Right* hemiplegia from infancy; epilepsy.

In all of these cases of hemiplegia spastica infantilis the skull is more or less diminished in size on the side opposite the paralysis.*

There is a pronounced tendency to diminution in all dimensions and capacity. This is so marked in the transverse diameters as to bring these heads under the class of leptocephalus.

While all of the heads are below the normal averages, more than seventy-three per cent. are actually below the lowest limit of physiological variation in some of their dimensions.

The value of this contribution to craniometric literature, then, from an anthropological point of view, lies in its determination of the intimate relationship existing between portions of brain and adjacent cranial areas; from a psychological point of view, in its proving or assisting to prove the interdependence of small-sized heads and mild degrees of feeble-mindedness, congenital or acquired in infancy.

Upon my co-worker, Dr. E. D. Fisher, now rests the burden of relating the clinical features of these cases, conjecturing as to their pathology, and drawing the practical inferences from the work which may make craniometry of interest and use to the general practitioner.

### PART II, BY DR. FISHER.

The clinical aspect of these cases and the conclusions resulting from their records I shall now attempt to lay before you. They consisted, as the table below shows, of twelve males and eight females. They were all typical cases of hemiplegia spastica infantilis. The fact that all except four were associated with epilepsy is probably due to the fact that they were taken from the almshouse, where

| No. | Name. | Age. | Hemiplegia. | Epilepsy. | Mental state. | Time of onset. | Jaw and palate. |
|---|---|---|---|---|---|---|---|
| I. | John W ... | 32 | Left. | Present. | Imbecile. | At 3 yrs. | Normal. |
| II. | Martin K.. | 29 | " | " | " | At birth. | " |
| III. | John H.... | 36 | Right. | " | " | At 3 yrs. | " |
| IV. | Patrick D.. | 22 | " | " | " | At birth. | High palate. |
| V. | Michael M. | 23 | " | Absent. | Weak-minded | At 2 yrs. | Normal. |
| VI. | George Y.. | 23 | " | Present. | Imbecile. | Infancy. | " |
| VII. | William H. | 27 | " | " | " | " | " |
| VIII. | F. F....... | 26 | Left. | " | " | " | " |
| IX. | George T.. | 26 | " | " | " | " | High palate. |
| X. | Henry H... | 18 | Right | " | " | " | Normal. |
| XI. | John K.... | 20 | " | " | " | " | " |
| XII. | Mary T.... | 29 | " | " | " | " | " |
| XIII. | Mary W... | 26 | " | " | " | " | " |
| XIV. | Mary G.... | 32 | Left. | Absent. | " | " | " |
| XV. | Kate W.... | 28 | Right | Present. | " | " | " |
| XVI. | Ida C...... | 33 | Left. | " | " | " | " |
| XVII. | Mary C.... | 17 | Right | " | " | At birth. | " |
| XVIII. | Sarah K... | 30 | " | " | " | Infancy. | " |
| XIX. | Louise W.. | 33 | Left. | " | " | At birth. | " |
| XX. | Frank L... | 6 | " | Absent. | " | " | " |

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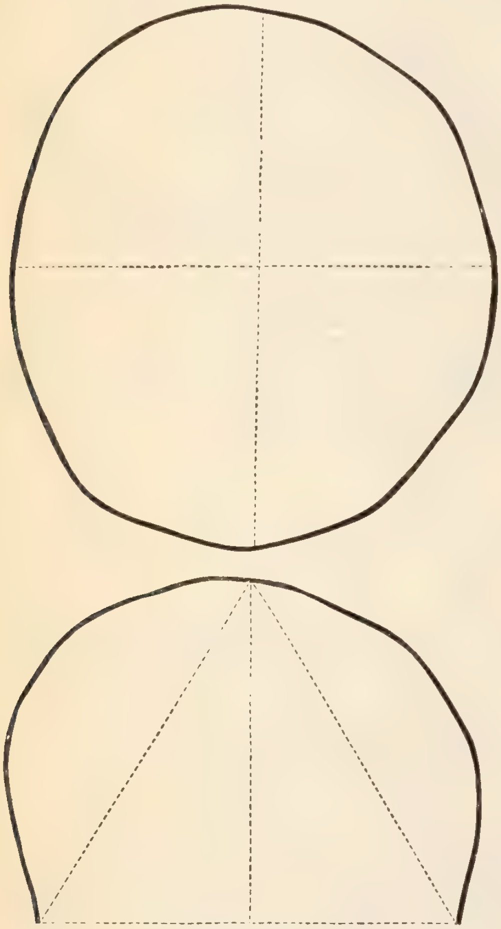
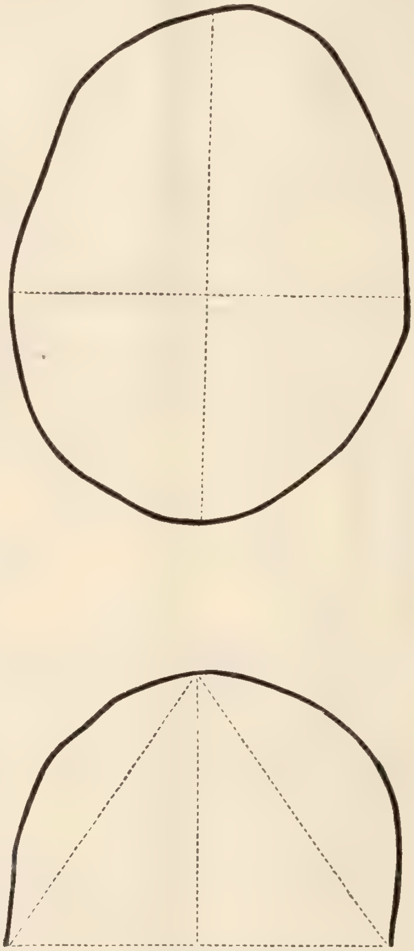
* This tendency to a depression of the cranial vault on the side of the lesion in these cases is sometimes more or less counterbalanced by a thickening of the bony parietes upon that side, as was long ago pointed out by Van der Kolk ("New Sydenham Society Transactions").

for that reason they had probably been sent, as, although epilepsy is very frequent in these cases, it is not in so great a proportion as this list would seem to indicate.

It is seen that four cases date from birth, the rest from early infancy; high palate and prominent lower jaw were present in two cases; in thirteen out of twenty the right side was affected; in many, athetoid or choreiform movements with intention tremor existed; and in all imbecility or weak-mindedness. The capacity of the cranium is reduced in most of the cases; the bregmato-lambdoid arc is not, however, lessened, as I would have been led to expect from measurements reported in idiots and epileptics. (See table of cases.)



XIX.—L. W., female, aged 22. *Left* hemiplegia from birth; epilepsy.



XX.—F. S., male, aged 6. *Right* hemiplegia from birth.

(No. XX redrawn from illustration in "Medical Record," June 23, 1888, author's article "Principles of Craniometry.")

We must consider that these cases have had their origin either in the embryonal period or in infancy. In the first class we find many of the same lesions as in idiocy or imbecility without hemiplegia: porencephalus, absence of the corpus callosum, of the middle commissure, intra-uterine meningitis, meningeal hæmorrhage, sclerosis following hereditary syphilis, osteal malformations—as irregular growths of the sphenoid bone; again, emotional pathological conditions of the mother during pregnancy, injuries from blows, jars, etc., during fœtation, but limited to one side.

Richter, in Virchow's "Archiv," vol. cvi, says that in idiocy the sagittal suture is frequently very short, and that the sphenoid bones may unite at an abnormal angle, leading to malformation of the corpus callosum or to porencephalus, which is often unilateral. In porencephalus the subject rarely reaches middle life.

Biswanger, in Virchow's "Archiv," vol. cii, gives the history of such a case, the marked symptoms being right hemiplegia, epilepsy, and imbecility.

The ætiology of cases occurring at birth or in infancy is again quite varied. First in importance I would place prolonged labor, a very large proportion of children who require resuscitation becoming imbeciles, meningeal and capillary hæmorrhage being produced by pressure in the maternal passage.

It is probable, from careful investigation, that the use of the forceps has little to do with causing these cases, but, on the contrary, its delayed employment or non-use more often results in danger to the child. The falls of childhood in an hereditarily predisposed constitution—as from alcoholism, tuberculosis, hereditary syphilis, etc.—are no doubt exciting causes in many instances. We must refer to the exanthemata acting either indirectly by extension of inflammatory changes to the meninges—as in otitis from scarlet fever—or indirectly on a vitiated constitution. Encephalitis and cerebral hæmorrhage or embolism are rare at this age, while tumors present characteristic symptoms of their own.

In "Brain," April, 1888, Beach and Warner report an interesting case of chronic meningitis, probably syphilitic, the lesion being bilateral, although most marked on one side. It presented a very common symptom in idiocy—namely, viciousness—which I have not observed in any of these cases. Mr. E. Powell, in the "British Medical Journal," June 30, 1888, reports a case of cerebral atrophy and hemiplegia. He showed a specimen of brain atrophy from an imbecile woman, aged forty-six, who had been epileptic and hemiplegic on the left side since she was three years and a half old. At that age she had a "fit," was totally blind for seven weeks, when she gradually recovered her sight, but remained hemiplegic. Post-mortem examination showed complete atrophy of the right occipital lobe, considerable atrophy of the ascending convolutions, the fusiform and lingual lobules—the angular gyrus being apparently healthy.

The changes occurring in the brain as consequent upon the lesions given in the ætiology of these cases are atrophy of the cerebrum and increase of the connective tissue, with descending degeneration extending into the spinal cord.

The sclerosis of the brain may be focal, diffuse, or multiple; the cortex cells are often degenerated, their processes ost, and their number decreased.

The association fibers are probably destroyed, leading thus to loss of judgment or reason. Many idiots possess certain talents, such as knowledge of music, drawing, etc., but the general intelligence in these cases is no greater than in the others.

Zilgerson ("Brain," July, 1887), in an examination of five cases of idiocy, was struck by the great influence which the degree of development of the great hemispheres has on the evolution of the crura cerebri, a primary severe lesion of the cortex in the embryonal period or in earliest childhood causing secondary degeneration and inhibition of evolution in certain parts of the crus. In three cases hemiatrophy of the brain was demonstrated, and in two others alteration of the crus cerebri was very evident. In four cases atrophy of the cerebellum of the opposite side was observed.

In a case presenting the usual symptoms of this class—*i. e.*, right hemiplegia, epilepsy, and imbecility—I found post mortem the left ventricle very much enlarged and filled with fluid, and macroscopically a considerable atrophy of that side of the brain.

In these cases the transverse arc was found decreased, or, in other words, they were narrow-headed, the temporal region being thus encroached upon. This might in a degree explain the slowness of comprehending questions, and also the imbecility, as lesions in the temporal convolution produce word-deafness.

I can not refrain from referring to a point of great importance in children, and this is that any interference with hearing, and therefore a clear comprehension of sounds and words, may lead to a considerable amount of mental weakness.

It will be observed that all the cases, with one exception, are adults, and that the volume of the skulls, with one exception, is reduced.

Sommer, in Virchow's "Archiv," vols. lxxxix and xc, found in the insane that the volume was increased, differing in his records from Gall and Welcker.

The cause of this difference in volume must lie either in the increase of the diameters of the skull or in its conformation. According to Virchow, it is in the latter. (See "Entwickelung des Schädelgrundes.") In the insane skull it is the inability to make the measurements conform to any standard rather than that they have any particular measurements peculiar to insanity.

We have in our cases not only the capacity of the skull affected, but opposite to the hemiplegia a constant decrease in the size and conformation. It is not forgotten by the writer that many normal cases present wide variations in cranial measurements, yet we get at an average which differs from the average in these twenty hemiplegias. Although the number of cases is not great, still, as the results are always the same, it is sufficient to draw the conclusion that congenital or infantile cerebral defect is accompanied by a corresponding cranial irregularity.

Again, in ordinary idiocy, Down has been able to refer the cases of certain types to the lower races, so that in many instances they approach the Mongolian type, even with the characteristic almond-shaped eyes. He finds also, and makes his diagnosis of the congenital origin of this condition rest on the presence of, an abnormally high or cleft palate, a prognathous jaw, etc. Now, in these twenty cases we find but two with abnormally high palates and prominent jaws. This would lead us to infer, if we agree with the theory of Down, that the cause must have been effective more often at birth or in infancy than during intra-uterine life, and in this I believe the pathology of the disease will bear us out.

An interesting point to the practitioner then arises, in these cases of one-sided affection of the cerebrum, whether or no, as the disease is one of early life, it is not possible to develop by education the opposite half of the cerebrum, and cause it to take on the functions of the undeveloped hemisphere. I would certainly try to train the hand of the opposite side to as great a degree as possible.

The kindergarten system of object-teaching should be carefully carried out, and especially should these little patients be thrown in with other children of like age in respect to intelligence. The diet should be rich and nourishing. Much can be done for the paralyzed member to improve its nutrition by massage and galvanism.

## TREATMENT OF PNEUMONIC FEVER.

By EDWARD F. WELLS, M. D.,
LATE PROFESSOR OF MATERIA MEDICA, COLLEGE OF PHYSICIANS AND SURGEONS, CHICAGO.

(*Continued from page 341.*)

Believing that calomel acts favorably in pneumonic fever by its destructive action upon the organic cause of the disease, I have employed it by interstitial injection in two cases.

Although both these cases recovered and no untoward local effects followed the injections, yet the plan does not commend itself to my judgment. This line of treatment has been followed by Lépine,[*] who uses solutions of corrosive sublimate for his intrapulmonary injections.[†]

Emetics are indicated in adults when the stomach is filled with undigested food. In infantile cases it is well to begin the treatment with emetic doses of ipecacuanha, or some more stimulating emetic, unless thorough emesis has already occurred. Children vomit easily, and if the stomach is evacuated there is less liability of the occurrence of convulsions. Moreover, the act of vomiting promotes perspiration and is usually followed by quiet sleep. Later, when the bronchi are filled with secretions, emetics assist in their evacuation.[‡]

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[*] "Med. Rec.," Oct. 24, 1885, p. 465, et "Lyon médical," 1887.

[†] See, also, Biggs, "N. Y. Med. Jour.," Aug. 18, 1888, p. 177; Phillips, "Med. Rec.," May 1, 1886, p. 501; Putnam-Jacobi, *ibid.*; Ransome, "Med. Chronicle," 1887; Smith, "Med. Rec.," May 1, 1886, p. 501; "Jour. of the Am. Med. Assoc.," May 7, 1887, p. 522; White, "Med. Rec.," May 22, 1886, p. 593.

[‡] See Cunning, "Trans. of the Dublin Col.," vol. v.

To relieve the embarrassment of the pulmonary circulation, to control the action of the heart, and allay the general nervous excitement, are problems of the very greatest importance. Usually, the achievement of the first two objects carries with it success in the third.

The pulmonary congestion may be relieved by directly abstracting blood from the right side of the heart, by diminishing the total quantity of blood in the system, by equalizing the distribution of the sanguineous fluid, and by storing large quantities of it in parts of the body distant from the heart.

Westbrook,[*] Roberts,[†] Leuf,[‡] and others, recommend cardientesis (of the right side) for the purpose of quickly and certainly relieving intense pulmonary congestion and impending heart failure. I am impelled to think, however, with Wyman,[#] Dana,[‖] and others,[△] that this operation is too difficult and dangerous to come into general use.

Reducing the total quantity of blood in the system is best accomplished by general bloodletting.[◊]

The question of bloodletting in pneumonic fever is one of great importance, and has claimed the earnest attention of clinical observers from the earliest days of medicine. The practice has had its earnest advocates and, as in the case of many other useful measures, its opponents. There was a time when no case of pneumonic fever, seen by a medical practitioner, escaped being bled. Venesection in this, as well as in all other diseases, was carried to a most lamentable extreme, to the great detriment of the patient and the reputation of our art. This extreme has been followed by the opposite, and the lancet, almost entirely discarded, has become decidedly unfashionable. This result has been attained, I think, by an erroneous judgment on the part of the medical profession, inasmuch as undue weight has been given to the arguments against the measure, while those which may be adduced in its favor are ignored.[*]

During the second quarter of the present century a great and radical change was made in the treatment of this malady. From a heroic antiphlogistic plan the diametrically opposite one of support and stimulation was generally adopted. Many writers[†] contend that this universal change was not the correction of an error, but the appreciation of a change of type in the disease, while this is denied by others.[‡] It is not desirable that the routine treatment of pneumonic fever by excessive bleedings should ever be restored to professional favor, yet I am of the opinion that the practitioner who wholly abstains from venesection deprives his patient of a most potent remedy. In suitable cases and employed with discretion it is one of our most valuable means of relief.

Venesection is not necessary in every case of pneumonic fever, and the patient, conditions, and time should be carefully selected. The very young and the very old, the weak and the anæmic, should not be bled, but on others, with an obstructed pulmonary circulation, the lancet should be employed.

In this condition there is an obstruction to the flow of blood through the arterioles and capillaries, which, added to that offered the circulation in the affected lung, causes a damming back of the blood in the right cardiac cavities and the general venous system. The pulse is long, full, and incompressible; there is venous congestion of the face and head; the breathing is oppressed, rapid, and laborious; the patient is alarmed and his anxiety is depicted upon his countenance.

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[*] "Med. Rec.," Dec. 23, 1882.

[†] "Med. News," Jan. 13, 1883.

[‡] "Am. Jour. of the Med. Sci.," January, 1885, p. 79.

[#] "Med. Rec.," Jan. 20, 1883.

[‖] "Med. Rec.," Feb. 3, 1883.

[△] Cheesman, "Med. Rec.," Jan. 20, 1883; "Edinb. Med. and Surg. Jour.," March, 1884, p. 820.

[◊] Adison, "Lancet," Feb. 3, 1855, p. 123; Aetius, "Opera"; Alison, "Pathology," 1844; Andral, "Med. Clinic," Philadelphia, 1843, vol. ii; Aretæus, "Opera"; Badely, "Lancet," New York, 1860, vol. i, p. 343; Billard, "Mal. des enfants"; Bonet, "Sepulchret.," Lugd., 1700; Bouillaud, "Dic. de méd."; Chambers, *op. cit.*; Chomel, "Pneumonie," S. 337; Christison, "Edinb. Med. and Surg. Jour.," July, 1858; Clark, "Med. Gaz.," 1880; Clark, "Jour. of the Am. Med. Assoc.," Nov. 28, 1885; Claiborne, *op. cit.*; Cleghorn, "Epidem. dis. minorica," London, 1761; Condie, "Am. Jour. of the Med. Sci.," January, 1871, p. 339; Cunning, *op. cit.*; Davies, "Lancet," New York, 1852, vol. i, p. 118; Davis, "Jour. of the Am. Med. Assoc.," vol. i, p. 415; Dewees, "Diseases of Children," p. iv; Dietl, "Lungenentzündung," Wien, 1848, S. 4; Evanson, "Infan. Therapeutics," p. 148; Flint, "Med. News," Nov. 28, 1885, p. 605; Frank, "Cur. hom. morb."; Gairdner, "Lancet," 1887, vol. ii, p. 247; Galen, "Opera"; Green, "Quain's Dic. of Med.," New York, 1883, p. 884; Grisolle, "Traité de la pneumonie," Paris, 1864; Hamilton, "Pneumonia," London, 1883; Hart, "Jour. of the Am. Med. Assoc.," Oct. 10, 1885, p. 395; Hartshorne, "Med. News," April 8, 1888; Hermann, "Lungenentzündung," München, 1880, S. 38; Huxham, "Epidem. Diseases," London, 1748; Jones, "Ohio Med. Recorder," October, 1878, p. 193; Judrin, "Thèse de Paris," 1824; Kemper, "Med. World," 1888, p. 260; Lawrence, "Brit. and For. Med.-chir. Rev.," July, 1858, p. 34; Lebert, "Handb. d. spec. Path.," Bd. ii, S. 80; Louis, "Rech. sur la saignée"; Luckie, "Am. Jour. of the Med. Sci.," vol. viii, p. 354; Maclachlan, "Dis. of Advanced Life," London, 1860; Mackintosh, "Brit. and For. Med.-chir. Rev.," July, 1858, p. 34; Manson, "Infant Therap.," p. 148; Markham, "Lancet," New York, 1860, vol. i, p. 520; Mauthner, "Jour. f. Kinderkrankh.," Bd. xviii, S. 852; McCulloch, "Jour. of the Am. Med. Assoc.," Aug. 18, 1883, p. 174; Moore, "London Med. Rec.," May, 1883; Morgagni, "Epist.," xx; Niemeyer, "Spec. Path.," Berlin, 1862; North, "Jour. of the Am. Med. Assoc.," Aug. 18, 1888, p. 249; Pepper, "Phila. Med. Times," April 16, 1879; Pringle, "Dis. of the Army," London, 1768; Ranking, "Ranking's Abst.," No. 6, p. 44; Rasori, "Teoria delle flogosi," Milano, 1837; Renauldin, "Bib. méd.," 1827; Rilliet et Barthez, "Mal. des enf."; Sauvages, "Nosog. Meth."; Sennert, "Prac. Med.," Witt., 1635; Strohl, "Lancet," New York, 1861, vol. i, p. 278; Swett, "Dis. of the Chest," New York, 1856, p. 108; Sydenham, "Works," London, 1788, vol. ii, p. 414; Tessier, "Rev. méd.-chir.," August, 1847; Thompson, "Ohio Med. Recorder," August, 1870, p. 97; Van Swieten, "Comment."; Watson, "Prac. of Phys.," p. 584; Weller, "Inaug. Diss.," Zürich, 1854, S. 42; Williams, "Lancet," New York, 1862, vol. ii, p. 4; Wunderlich, "Arch. f. Phys. Heilk.," 1856; Ziemssen, "Pneumonie," Berlin, 1862, S. 272; *et al.*

Objectors are Balfour, "Edinb. Jour.," 1847, p. 397; Becquerel, "Emiss. sang.," Paris, 1838; Fox, "Reynolds's Syst. of Med.," Philadelphia, 1880, vol. ii, p. 209; Gibbs, "Cin. Lan. and Obsv.," April, 1861, p. 211; Graves, "Clin. Med.," Dublin, 1838, vol. ii, p. 42; Legendre, "Arch. gén. de méd.," 1859, p. 283; McBride, *op. cit.*; Sibson, "Brit. and For. Med.-chir. Rev.," 1858; Waters, "Clin. and Prac. Med.," London, 1887; Heiss, "Inaug. Diss.," München, 1857, S. 24; *et al.*

[*] Here is a specimen of the arguments used against bleeding: Moore ("London Med. Rec.," May, 1883) refers to an epidemic of pneumonic fever observed by him in which every case seen in the beginning of the outbreak was bled, and died. Later cases were treated by supporting measures, and all recovered. This is apparently strong proof; but who does not know that the fatality of any epidemic disease rapidly declines as the epidemic progresses, and that to "bleed in every case" is the height of folly?

[†] Christison, "Edinb. Med. and Surg. Jour.," July, 1858; *et al.*

[‡] Flint, "Prac. of Med.," Philadelphia, 1868, p. 114, et p. 150; *et al.*

In my experience, the relief afforded such cases by venesection has been immediate and remarkable. The measure operates in two distinct ways—by unloading the right side of the heart, and by equalizing the distribution of the remaining blood throughout the system.

Should the patient have passed into a comatose state with the first brunt of the disease, the case is evidently desperate—almost hopeless. Here everything depends upon ridding the system as quickly as possible of the poisonous matters circulating in the blood and overwhelming the central nervous system, and free bleeding is the remedy *par excellence.* In the worst cases very large quantities of blood should be removed and the loss partially replaced by transfusion, as has been successfully practiced in analogous cases.[*]

An apparatus for lessening the atmospheric pressure on the surface of the extremities and thus causing an intense local congestion, by which means a large quantity of blood may be temporarily withdrawn from the general circulation, has been offered as a substitute for phlebotomy by Junod,[†] and is recommended by some others.[‡]

For the control of the circulation suitable doses of a reliable preparation of veratrum viride[#] should be given at suitable intervals until the pulse has been reduced to from 70 to 100 a minute and maintained at this rate throughout the attack.

This remedy, a variety of which was advocated by Gessner[*] so early as the sixth century, and reintroduced to the profession, chiefly through the writings of Norwood[†] and other American physicians, is a powerful and certain cardiac sedative and tonic. By its use in this disease the irritation and excitability of the vaso-motor nervous system are reduced, the heart's action is rendered more quiet and regular, and the arterioles and capillaries are dilated. The terminal blood-vessels being now filled, there is a great diminution in the blood-pressure, and at the same time the overdistension of the right side of the heart and the congested lung are relieved. Indeed, the patient is actually bled into his own terminal blood-vessels. Although the most powerful remedy of its class, it is likewise the safest.[‡] The directions which I give my patients are so simple and explicit that the dullest and most careless nurse can understand and appreciate them. The stated dose—*two* tablets, *two* pills, or *two* teaspoonfuls—is given at stated intervals until nausea or vomiting ensues, after which *one half* the dose is to be given. By this simple expedient the full effect of the drug may be obtained in a perfectly safe manner.

Aconite, with an action similar to that of veratrum viride, is preferred by some practitioners.[#] It is indicated in those cases with a full and hard pulse and general circulatory excitement. Under its use the pulse becomes weaker, the skin moist, and the urine free. Potent for good in the earliest stages of the disease, it must be discontinued if the heart begins to flag, for it is then no longer useful and may become positively dangerous.

The best plan for its administration is to give minute doses at very short intervals until the desired effect is obtained, afterward continuing at longer intervals or ceasing its use.

Digitalis is also an agent of considerable power in reducing the frequency of the cardiac contractions and in making them more regular when they are disturbed in rhythm. It was formerly much employed in the treatment of pneumonic fever,[‖] "but is now discarded as being of very little use,"[△] although it continues to have its advocates.

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[*] Casse, "Presse méd.," 1876; Garrigues, "Med. Rec.," March 3, 1883; Halstead, "Med. News," Dec. 8, 1883, p. 622; Jürgensen, "Berliner k. Wochenschr.," 1871; Kahler, Virchow's "Arch.," 1881; König, "Deutsche Klinik," 1870; Kühne, "Ctrlbl. für Chir.," 1864, No. 9; Lühe, "Deutsche mil.-aerztl. Zeit.," 1878, S. 263; Saltzmann, "Finska Läkaresälls Kapetts Handb.," Bd. xix, S. 266; Von Ott, "Arch. f. path. Anat.," 1883, S. 114.

[†] "Med. Times and Gaz.," Jan. 10, 1855, p. 533.

[‡] Bradley, "Cincinnati Clinic," Feb. 10, 1872, p. 62; Lépine, "Pneumonie," Wien, 1883, S. 177; Routh, "Brit. Med. Assoc. Jour.," June 8, 1855, p. 533.

[#] Abbot, "Cin. Lan. and Obsv.," July, 1862, p. 447; Aran, "Bull. gén. de thérap.," 1853; Bland, "Cin. Lan. and Obsv.," Sept., 1864, p. 522; Collins, "Cin. Clinic," Feb. 8, 1873, p. 61; Coons, "Cin. Lan. and Obsv.," Sept., 1864, p. 522; Cutter, "Am. Jour. of the Med. Sci.," Oct., 1859; Cutter, "Lancet," N. Y., 1862, vol. ii, p. 247; Dessauer, Schmidt's "Jahrb.," 1866; Fournier, "L'Union médicale," 1855; Francis, "Med. World," 1888, p. 191; Ghiglia, "Bull. gén. de thérap.," 1860; Given, "Am. Prac.," June, 1870, p. 331; Hale, "Am. Prac.," July, 1870; Jacobi, "Am. Prac.," Nov., 1870, p. 307; Jaques, "Med. World," 1888, p. 145; Johnson, "Cin. Lan. and Obsv.," Sept., 1864, p. 523; Jones, "Lancet," New York, 1862, vol. ii, p. 282; Kiemann, "Prac.," Aug., 1868; Kocher, "Pneumonie," Würzb., 1866; Lebert, "Berliner k. Wochenschr.," 1871; Madden, "Med. Rec.," April 23, 1887, p. 475; Montgomery, "St. Louis Med. and Surg. Jour.," Feb., 1878, p. 143; Newman, "Cin. Lan. and Obsv.," Sept., 1864, p. 524; Newman, "St. Louis Med. and Surg. Jour.," Feb., 1878, p. 130; Neyman, "Cin. Lan. and Obsv.," Sept., 1862, p. 521; Osgood, "Am. Jour. of the Med. Sci.," vol. xvi, p. 296; Percy, "Am. Med. Times," July 11, 1863; Ritter, "Deutsche Klin.," 1860; Roth, "Würzb. med. Zeitschr.," Bd. i u. iii; Schrötter, "Wiener Jahresb.," 1870, S. 123; Sidlo, "Arch. f. k. Med.," Bd. xiv; Toland, "Am. Jour. of the Med. Sci.," Oct., 1858; Uhle, "Arch. f. phys. Heilk.," Bd. iii; Vogt, "Bull. gén. de thérap," Jan., 1860; Walker, "Lancet," New York, 1882, vol. i, p. 112; Wilson, "Am. Prac.," April, 1870; Woodson, *ibid.*, May, 1870; Zuber, "Bull. gén. de thérap.," 1869, p. 468; Alexander, "Med. and Surg. Rep.," 1876; Alt, "Arch. f. k. Med.," Bd. ix; Bouyer, "L'Union méd.," 1856; Drasche, "Oesterr. Zeitschr.," 1866; Nawroski, "Inaug. Diss.," Königsb., 1858; Trapenard, "Gaz. des hôp.," 1856.

[*] Lebert, "Berliner k. Wochenschr.," Sept. 18, 1871.

[†] See "Southern Med. Jour.," 1850, and other journals.

[‡] Guthrie, "Jour. of the Am. Med. Assoc.," July 23, 1887, p. 125; McMechan, "Cin. Lancet and Clinic," 1884; Millard, "Jour. of the Am. Med. Assoc.," July 23, 1887, p. 125; Ringer, "Therapeutics," p. 365; Stillé, "Nat. Dispensatory," p. 1484; Waring, "Therap.," p. 600; Wood, "U. S. Dispensatory," p. 473.

[#] Achscharnmoff, Reichert's "Archiv," 1866, S. 255; Fox, *op. cit.*, p. 312; Keating, "Med. News," April 1, 1882, p. 341; Kinsman, "Ohio Med. Recorder," Jan., 1881, p. 360; Mays, "Therap. Gaz.," April 15, 1885, p. 217; Pope, "Lancet," Nov. 26, 1887, p. 1068; Ringer, *op. cit.*; Routh, "Brit. Med. Assoc. Jour.," June 8, 1855, p. 533; Thudicum, "Lancet," 1887, vol. ii, p. 1068; Warner, *ibid.*, p. 1068; *et al.*

[‖] Alix, "Bull. gén. de thérap.," May 30, 1880; Antonin, "Inaug. Diss.," Bucharest, 1887; Baginsky, "Pneumonie," Würzb., 1880, S. 72; Bartholow, "Am. Clin. Lec.," New York, Jan., 1876, p. 14; Bleuler, "Inaug. Diss.," Zürich, 1865; Cunning, *op. cit.*; Duclos, "Bull. gén. de thérap.," t. li et lxii; Joly, "Rev. méd. de Toulouse," July, 1879; Kinsman, "Ohio Med. Recorder," Jan., 1881, p. 360; Lebert, "Berliner k. Wochenschr.," Sept. 4, 1871; Petresco, "Lyon méd.," Oct., 1888; Rilliet et Barthez, *op. cit.*, p. 597; Sansom, "Lancet," 1887, vol. ii, p. 1261; Schrötter, "Sitz. d. k. k. Akad. d. Wissensch. zu Wien," Jan., 1870; Thomas, "Arch. d. Heilk.," 1865, S. 329; Traube, "Charité Ann.," Bd. i, S. 691; Wunderlich, "Arch. d. Heilkunde"; Ziemssen, "Pneumonie," Berlin, 1862, S. 287.

[△] Brunton, "Therapeutics," Philadelphia, 1885, p. 850.

In the spring of 1880 I saw in consultation a boy, five years of age, on the fifth day of an attack of pneumonic fever. The entire left lung was consolidated and the attack had been a very severe one indeed. Two hours previous to my visit the dyspnœa was urgent, cyanosis marked, temperature 106°, skin cool and bathed in a profuse clammy perspiration, the mind oblivious to its surroundings, and the patient was thought to be dying. Twenty drops of tincture of digitalis was now given, and the dose repeated in one and two hours—the last immediately before my arrival. I found the child sitting up in bed, eating a bowl of soup, for which he had called. The pulse was 60, respirations 40, and temperature 101°, and mind clear. Convalescence began at once and complete recovery speedily ensued.

A young man, given to excesses of all kinds, was taken, during the night of June 9, 1880, with a severe chill, followed by the ordinary symptoms of pneumonic fever, locally affecting the entire right lung. The malady pursued a severe course and on the seventh day he was semi-comatose, with a dry and dark tongue and the teeth covered with sordes; there was no call for water, yet when it was presented to him he drank with avidity; there was anorexia and he would partake of no solid food, although liquids were readily swallowed; there was diarrhœa, with unconscious evacuation of fæces; the urine was scanty, dark, and loaded with lithates; there was a moderate cough, with infrequent but copious expectoration of dark matter; there was a low, muttering delirium, with reaching after imaginary objects and picking at the bed-clothes; the pulse was 140, respirations 68, and temperature 104°. On the following day, after profuse epistaxis, there was a marked amelioration of the symptoms, but by the next day he was worse than when I first saw him on the seventh day. One drachm of the tincture of digitalis was now given at a single dose. Defervescence began in a few hours and by the next morning he was fully convalescent.

Strophanthus,[*] convallaria,[†] lantanin,[‡] strychnine,[#] sparteine,[‖] and other heart tonics[△] may be employed to meet special indications.

As a simple depressant, antimony may be prescribed,[◊] although it has of late years fallen into obscurity.

Antimony, first employed by Paracelsus, was, until recently, very generally employed in the treatment of pneumonic fever, but it is now seldom prescribed.[*] For a long time it was used in moderate doses, when Rasori, early in the present century, advocated its employment in heroic doses. Laennec adopted this method with all the ardor of his nature, and the splendor of his name, coupled with his earnestness and the elegance of his diction, soon obtained for it a large and influential following. The excessive and indiscriminate use of so powerful a drug, however, could not long escape being followed by the most deleterious results,[†] and the remedy soon fell into disgrace and comparative obscurity.

Other sedatives—as, *e. g.*, acetate of lead,[‡] bicarbonate of potassium,[#] tulipine,[‖] catramine,[△] etc.—have been recommended, but those already mentioned are so effective that nothing is gained by the employment of secondary or uncertain agents.

The exalted temperature should be reduced[◊] to within moderate limits, and held there during the entire course of the disease. The measures heretofore mentioned will have partially brought about this result, but it is usually necessary to have recourse to more efficient and direct antipyretics. Of agents belonging to this class may be mentioned thalline,[↧] kairin,[↕] hydro-quinone,[⇞] resorcin,[**] acetanilide,[††] antipyrine,[‡‡] etc.[##]

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[*] Chew, "Med. Rec.," May 7, 1887, p. 515; Fraser, "Brit. Med. Jour.," Nov., 1885; Hutchinson, *ibid.*, May 7, 1887; Smith, "Med. Rec.," Dec. 18, 1886, p. 694; *et al.*

[†] Logan, "Lancet," Nov. 17, 1883.

[‡] "Jour. of the Am. Med. Assoc.," Dec. 11, 1886; "London Med. Rec.," Oct., 1886

[#] Maragliano, "Med. Presse," Nov. 21, 1883.

[‖] Pawinski, "Gaz. Lekarska," 1888; Sée, "Jour. of the Am. Med. Assoc.," Oct. 30, 1886, p. 500.

[△] Brunton, "St. Barth. Hosp. Rep.," 1871, p. 216; Jürgensen, Ziemssen's "Handb.," Bd. v, 1877, S. 264; Ziemssen, "Jour. of the Am. Med. Assoc.," May 4, 1887, p. 536.

[◊] Blakiston, "Dis. of the Chest," London, 1848; Brendel, "Opusc. med.," Gœtt., 1769; Burghardt, "Inaug. Diss.," Berlin, 1824; Chambers, *op. cit.*; Cullen, "Prac. of Phys.," 1792; Fontaneilles, "Arch. gén. de méd.," 1824; Forbes, Laennec's "Dis. of the Chest," New York, 1830; Fuller, "Dis. of the Lungs," 1867; Gerhard, "Dis. of the Chest," Philadelphia, 1860; Guersant, "Dic. de méd.," t. viii; Hellis, "Clin. méd.," Paris, 1826; Hirschel, "Arzneiw.," Berlin, 1768; Huxham, "On Fevers," London, 1739; Jaccoud, "Med. Rec.," May 7, 1887, p. 573; Laennec (A.), "Jour. méd. de la Loire," 1825; Laennec, "Auscult. méd.," Paris, 1819, et "Rev. méd.," 1825; Lebert, *op. cit.*, Sept. 4, 1871; Lombard, "Arch. gén. de méd."; Paracelsus, "Bücher u. Schriften," Basel, 1589; Peschier, "Bib. Univ.," Geneva, 1822; Pringle, "Dis. of the Army," London, 1768; Rasori, *op. cit.*, et "Feb. petechiale." Milano, 1813; Recamier, "Gaz. méd.," 1830; Richter, "Op. med.," 1780; Riverius, "Meth. cur. feb.," 1640; Rogers, "Lancet," 1887, vol. ii, p. 1168; Rostan, "Thèse de Paris," 1830; Schrötter, "Sitz. d. Akad. Wien," 1878; Swett, "Dis. of the Chest," 1856; Thompson, "Lancet," New York, 1852, vol. i; Thorowgood, "Lancet," 1887, vol. ii, p. 1168; Tomassini, "Della nuova dott. ital.," 1816, et "Peripneum.," 1817; Trousseau, "Clin. méd."; Valentine, "Cur. triumphalis antimon."; Valentine, "Flux. sur la Poitrine," Nancy, 1815; Watson, *op. cit.*; Weller, "Inaug. Diss.," Zürich, 1854; Wesener, "Hufeland's Jour.," 1824; Wolf, *ibid.*, 1823; Williams, "Cyclp. of Prac. Med.," vol. iii.

[*] Opposed by Andral, "Clin. Med."; Bouillaud, "Dic. de méd.," t. xiii; Chomel, *op. cit.*, S. 372; Wagner, "Kritik d. ital. Lehre vom Contrastimulus," Berlin, 1819.

[†] Brunton, "Pharmacology," Philadelphia, 1885, p. 213; Peebles. "Am. Jour. of the Med. Sci.," May, 1848.

[‡] Eichhorn, "Med. Ann.," 1835; Chevalier, "Berliner med. Zeit.," 1834; Leudet, "Cin. Lan. and Obsv.," October, 1864, p. 620; Richter, "Rust's Mag.," Bd. xxxix; Strohl, "Lancet," New York, 1861, vol. i, p. 278, et "L'Union méd.," Oct. 12, 1871.

[#] Popham, "Brit. Med. Jour.," Dec. 28, 1867.

[‖] Gérard, "Med. Rec.," April 2, 1887, p. 386.

[△] Sasati, "Raccogliatore," March 10, 1887.

[◊] See D'Espine, "Trans. of the Ninth Int. Med. Cong.," Washington, 1887.

[↧] Jaccoud, "Bull. de l'acad. de méd.," No. 43, 1885; Jaksch "Wiener med. Wochenschr.," 1884, No. 48; Shoemaker, "Jour. of the Am. Med. Assoc.," July 17, 1886, p. 60; Tschistowitsch, "Ieshenedj. k. Gaz.," 1885, No. 30, *et al.* It is objected to by Weinstein, "Wiener med. Blätter," 1886, *et al.*

[↕] Drasche, "Wiener med. Presse," 1883, S. 506; Filehne, "Berliner klin. Wochenschr.," 1882, No. 45, und 1883, No. 6; Halla, "Therap. Gaz.," 1884, p. 313; Hoffer, "Wiener med. Presse," 1882, No. 30 u. 31; Hutchinson, "Phila. Med. Times," Nov. 27, 1884; Jansen, "Therap. Gaz.," 1884, p. 285; Knipping, "Berliner klin. Wochenschr.," 1883; Pavlinoff, "Med. Obozrenie," 1885, S. 1203; Tangemann, "Therap. Gaz.," 1884, p. 105; Trusservitsch, "Deutsche med. Zeitschr.," 1884, No. 101; Zitker, "Therap. Gaz.," 1884, p. 153 et 254, *et al.* Objected to by Riegel, "Allg. med. Cen.-Zeit.," July 28, 1883.

[⇞] Kinnicutt, "Med. Rec.," May 30, 1885; Mitchell, "Therap. Gaz.," November, 1885.

[**] Rhigi, "Rivista intern. di med. e chir.," 1884.

[††] Cahn und Heppe, "Ctrlbl. f. k. Med.," Aug. 14, 1886; Cauldwell, "Med. Rec.," April 16, 1887, p. 426; Cohen, "Med. News," Oct. 8,

Of these agents, antipyrine has attracted most attention. It causes a diminution of heat-production by a direct action upon the nervous thermogenic centers[*] and an increased dissipation[†] of heat by a dilatation of the cutaneous blood-vessels. The effect upon the general circulation and respiration, aside from that due to lessened corporeal temperature, is not marked.[*] The production and elimination of urea are diminished,[†] although the drug itself passes off through the kidneys.[‡] It has been thought to act not only as an antithermic but also as a direct antipneumonic remedy.[#] The best results are obtained by administering small doses at frequent intervals until the desired effect has been produced, and afterward continuing it at longer intervals or suspend it altogether, according to the indications. Because of the smaller dose, I prefer acetanilide, which has a very similar action to antipyrine.

Inasmuch as disagreeable and even dangerous results have followed the administration of all these powerful antipyretics,[‖] they should be used with caution.

When the skin is moist we know that the heat of the body is escaping as rapidly as possible,[△] and that if the temperature requires further reduction it must be effected by agents which prevent the formation of heat.

Quinine has also been largely used [◊] as an antipyretic

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1887; Hidowitz, "Jour. of the Am. Med. Assoc.," Dec. 3, 1887, p. 719; Murray, "Brit. Med. Jour.," April 23, 1887; Shoemaker, "Jour. of the Am. Med. Assoc.," July 17, 1886, p. 59; Simpson, "Med. Rec.," Dec. 3, 1887, p. 706; Van Bibber, "Jour. of the Am. Med. Assoc.," July 2, 1888, p. 117; Wilson, "Med. Rec.," June 11, 1887, p. 667, *et al.* Biro, "Lancet," 1887, vol. ii, p. 85, and others object to its use as being dangerous.

[‡‡] Adams, "Jour. of the Am. Med. Assoc.," Nov. 21, 1885, p. 581; Alexander, "Breslauer arztl. Zeitschr.," 1884, No. 14; Arduin, "Bull. gén. de thérap.," March 30, 1885; Argutinsky, "Thérap. Gaz.," February, 1885, p. 130; Arzutenky, "Rev. de méd.," Aug. 8, 1885; Ball, "Med. Rec.," Feb. 27, 1886, p. 253; Bettleheim, "Med. Jahrb.," Wien, 1885; Boldt, "Med. Rec.," April 11, 1885, p. 414; Butler, "Med. Jour.," May 2, 1885; Cahn, "Jour. of the Am. Med. Assoc.," May 22, 1886, p. 575; Coppola, "Therap. Gaz.," Oct. 15, 1885; Corning, "Med. Rec.," April 11, 1885, p. 414; Davis, "Jour. of the Am. Med. Assoc.," April 23, 1886; Draper, *ibid.*, April 11, 1885, p. 411; Demme, "Fortschr. d. Med.," 1884, No. 21; Ernst, "Bull. gén. de thérap.," Oct. 30, 1884; Falkenheim, "Berliner klin. Wochenschr.," 1884, No. 20; Ferguson, "Med. News," Nov. 28, 1885, p. 605; Filehne, "Zeit. f. k. Med.," 1884, S. 641; Frankenberg, "Med. Rec.," May 22, 1886; Fruitnight, *ibid.*, June 5, 1886, p. 646; Gradle, "Jour. of the Am. Med. Assoc.," Jan. 1, 1887, p. 19; Guttmann, "Berliner k. Wochenschr.," 1884, No. 20; Holt, "Med. Rec.," Feb. 27, 1886, p. 254; Huchard, "Jour. de méd.," 1885, No. 3; Janeway, "N. Y. Med. Jour.," Jan. 25, 1885, p. 108; Kinnicutt, "Med. Rec.," April 11, 1885, p. 414; Kostyleff, "Meditz. Obozr.," Nov. 21, 1884; Landenberger, "Jour. of the Am. Med. Assoc.," vol. v, p. 628; Laure, "Rev. des mal. des enf.," February, 1886; Lenhartz, "Deutsche med. Woch.," 1884, No. 31; Lynch, "Med. Rec.," May 25, 1885, p. 581, and "Jour. of the Am. Med. Assoc.," June 18, 1887, p. 674; Maragliano, "Gaz. del osp.," No. 72, 1884; May, "Deutsche med. Woch.," 1884; McLean, "Med. Rec.," April 11, 1885, p. 414; Metropolsky, "Meditz. Obozr.," 1884, No. 21; Mingazzini, "Gaz. del. osp.," No. 104, 1884; Mitchell, "Therap. Gaz.," 1885, p. 723; Moncorvo, "Med. and Surg. Rep.," Oct. 23, 1886, p. 539; Murri, "Gaz. del. osp., Nos. 89, 91, 1884; Neumann, "Berliner k. Woch.," Sept. 15, 1885; Noorden, *ibid.*, 1884, No. 32; Paoli, "Jour. of the Am. Med. Assoc.," Jan. 1, 1887, p. 19; Patrick, *ibid.*; Peabody, "N. Y. Med. Jour.," Jan. 24, 1885, p. 107; Pavlinoff, "Med. Obz.," 1885, S. 1203; Pengoldt, "Deutsch. Med.-Zeit.," 1884, No. 101; Potter, "Lancet," April 10, 1886; Pribram, "Präger med. Woch.," October, 1884; Pushkareff, "Med. Rec.," Mar. 21, 1885, p. 323; Putnam-Jacobi, *ibid.*, Feb. 27, 1886, p. 254; Rauk, "Schmidt's Jahrb.," October, 1884, S. 127; Reihlen, "Arch. f. k. Med.," April 22, 1886; Robertson, "Med. Rec.," May 7, 1887, p. 517; Robinson, "Jour. of the Am. Med. Assoc.," Jan. 1, 1887, p. 18; Smith, "Med. Rec.," Feb. 27, 1886, p. 238; Stockton, "Jour. of the Am. Med. Assoc.," Nov. 28, 1885, p. 614; Ungar, "Ctrlbl. f. Therap.," January, 1887; Walter, "Vratsch," 1885, No. 30; Weber, "Jour. of the Am. Med. Assoc.," April 11, 1885, p. 411; Webster, *ibid.*, Jan. 1, 1887, p. 19; Wetterdal, "Lancet," 1887, vol. ii, p. 85, *et al.* Objected to by Chapin, "Med. Rec.," April 7, 1888, p. 398; Dujardin-Beaumetz, "Prog. méd.," March 7, 1885; Jusinelli, "Deutsch. med. Woch.," Mar. 5, 1885; Posadski, "Ieshenedj. k. Gaz.," No. 30, 1885; Smith, "Med. Rec.," Oct. 20, 1888, p. 469; *et al.*

[##] Fürbringer, "Deutsche med. Wochenschr.," 1887, Nos. 11, 12, u. 13; Porter, "Med. Rec.," July 28, 1888, p. 88; Posadsky, "Deutsche med. Wochenschr.," 1886, No. 37 u. 38; Tovar, "Jour. of the Am. Med. Assoc.," July 17, 1886, p. 60; *et al.*

[*] Dabny, "Jour. of the Am. Med. Assoc.," vol. v, p. 441; Martin, "Therap. Gaz.," May, 1887.

[†] Bettleheim, "Med. Jahrb.," Wien, 1886; Beyer, "Am. Jour. of the Med. Sci.," April, 1886; Davis, "Jour. of the Am. Med. Assoc.," July 2, 1887, p. 15; Sée, "Bull. gén. de thérap.," April 20, 1887.

[*] Reihlen, "Arch. f. k. Med.," April 22, 1886; Wood, "Med. Rec.," June 11, 1887, p. 666.

[†] Umbach, "Arch. f. expm. Path.," 1886, No. 2 u. 3; Wiczkowski, "Med. Rec.," Dec. 25, 1886, p. 717.

[‡] Dabney, *op. cit.*

[#] Cahn, "Jour. of the Am. Med. Assoc.," May 22, 1886, p. 575; Pepper, "Med. Rec.," June 11, 1887, p. 666.

[‖] Baldwin, "Med. Rec.," July 2, 1887, p. 26; Barrs, "Lancet," 1885, vol. i, p. 382; Eccles, "N. Y. Med. Jour.," Oct. 24, 1885, p. 472; Helfer, "Med. Rec.," July 2, 1887, p. 26; Janeway, "Jour. of the Am. Med. Assoc.," Aug. 14, 1886, p. 182; Quimby, "Med. Rec.," July 2, 1887, p. 26; Shoemaker, "Jour. of the Am. Med. Assoc.," July 17, 1886, p. 59; Strauss, "Berliner k. Wochensch.," Aug. 31, 1885; Whitehouse, "Med. Rec.," Dec. 3, 1887, p. 706; *et al.*

[△] See Fothergill, "Med. Brief," May, 1886, p. 176.

[◊] Ady, "Med. and Surg. Rep.," 1887; Atkinson, "Practitioner," 1885; Bailly, "Fiev. int.," 1825, p. 424; Balby, "Jour. de méd.," Oct. 18, 1829, p. 7; Banks, "N. W. Med. Jour.," Jan., 1885, p. 392; Bart, "Practitioner," Oct., 1887, p. 294; Bell, "Lectures," vol. ii, p. 782; Binz, "Berliner k. Wochenschr.," 1868, No. 10, 13 u. 31; Blair, quoted by La Roche, "Pneumonia," Philadelphia, 1854; Boling, "Am. Jour. of the Med. Sci.," vol. viii, p. 89; Briquet, "Thérap. du quinquinia," Paris, 1853, p. 410; Davis, "Prac. of Med.," Chicago, 1884; Desiderio, "Comp. ren. de l'acad. des sci.," t. ix, p. 509; Donaldson, "Med. Rec.," March 7, 1885, p. 267; Drake, "Dis. of the Int. Valley," vol. i, Cincinnati, 1850, p. 746; Fenner, "N. O. Med. Jour.," vol. v, p. 208; Flint, "Med. News," Nov. 28, 1885, p. 605; Geromini, "Ann. de méd.," March, 1841; Gibbs, "Cin. Lan. and Observ.," April, 1861, p. 211; Grimshaw, "Dublin Jour. of Med. Sci.," May, 1875; Guersant, "Dic. de méd.," t. xxvi, p. 564; Harper, "Jour. of the Am. Med. Assoc.," Dec. 3, 1887; Holmes, "Am. Jour. of the Med. Sci.," vol. xii, p. 304; Holt, "Med. News," Feb. 7, 1885, p. 161; Jacobi, "N. Y. Med. Jour.," 1887; Jacquot, "Arch. gén. de méd.," 1845, p. 76; Jett, "Med. World," March, 1886, p. 94; Jürgensen, Ziemssen's "Handb.," Bd. v, 1877; La Roche, *op. cit.*, p. 471; Lépine, "Pneumonie," Wien, 1883, S. 174; Lescher, "N. W. Med. Jour.," March, 1850, p. 509; Lockie, "Edinb. Med. Jour.," Nov., 1885; Loomis, "Prac. of Med.," New York, 1884; Maxinowitsch, "St. Petersb. med. Woch.," 1884; Mérat et Delens, "Dic. de mat. méd.," t. vi, p. 76; McBride, *op. cit.*; McCaw, "Stethoscope," vol. ii, p. 666; McCormick, "N. O. Med. Jour.," vol. ii, p. 175; Merrill, *ibid.*, vol. viii, p. 161; Nickles, "Cin. Clin.," July 22, 1876, p. 37; Pattee, "Med. World," 1886, p. 91; Ringer, "Therap.," 1871, p. 416; Rodman, "Med. Rec.," 1875; Schultz, "Jour. of the Am. Med. Assoc.," July 31, 1886, p. 119; Taylor, "N. Y. Med. Jour.," 1887; Upshur, "Stethoscope," vol. ii, p. 437; Waters, "Clin. and Prac. Med.," London, 1887; *et al.*

in pneumonic fever, but with, on the whole, unsatisfactory results.[*]

The employment of large doses of quinine as an antipyretic had its origin in Italy in the early decades of this century,[†] and for a time was wildly lauded, but soon sank into disrepute to be again brought forth in recent years. If there is present a malarial complication, quinine, in moderate doses, should be prescribed. It is also useful as a tonic during convalescence. The very large doses recommended by some writers should never be given.

Quinine given in pneumonic fever has a bad effect upon the appetite and digestion,[‡] and frequently excites nausea and vomiting.[#] In large doses it is liable to cause marked cardiac weakness,[‖] profuse cold perspirations, and profound nervous depression. It is a feeble and uncertain antipyretic, and I have seen no instance in which it had favorably modified the natural course of the disease.

It has been thought by some that pyrexia is salutary and that it should not be interfered with.[△]

Thus Loomis[◊] says that it is proper to reduce the fever if it can be effected by moderate means, but he does not approve of the employment of extraordinary and perturbating measures for this purpose. Flint[‡] affirms that the idea that fever is a conservative process bears the stamp of absurdity upon its face.

(*To be concluded.*)

## A CASE OF HÆMATURIA IN THE MALE,

### RESEMBLING IN ITS PERIODICAL RECURRENCE THE MENSTRUAL EPOCH.

By WARREN B. CHAPIN, A. M., M. D.

THOSE remarkable instances where hæmaturia in the male takes place periodically once a month, simulating menstruation in its cyclical appearance, are among the rare occurrences of medical practice. Quite a number of cases have been recorded where a periodical discharge of blood through the female urethra has supplanted the menstrual flux, but in the literature on the subject I can find but three cases recorded where the monthly discharge has occurred in the male. Rayer[↕] mentions two cases—one of a Sedan butcher whose infirmity created such a feeling of disgust among his customers that they refused longer to buy meat from him.

Chopart cites the case of a young soldier who had a monthly discharge of bloody urine, accompanied by all the characteristic symptoms of menstruation. The rarity of this condition prompts me to report the following case which came under my care:

The patient, a gentleman fifty-eight years of age, weighing about two hundred pounds, married, had always enjoyed exceptionally good health. In February, 1888, he slipped on the ice and fell to the pavement, apparently without any injury beyond a slight strain. Three weeks after this fall he began to pass bloody urine, losing about an ounce of blood daily for several days, when the hæmorrhage ceased. One month later he again noticed that he was voiding blood with his urine, and since that time the hæmorrhage has returned every month. The amount of blood lost daily during these attacks was about an ounce and a half, the discharge lasting four or five days. These attacks recurred so regularly that he was always able to tell the day on which to expect his "sickness." Each period was usually preceded by nausea, dizziness, pains, and heaviness in the lumbar region, and sometimes headache.

On several occasions there were lancinating pains along the course of the ureters, radiating to the end of the penis. At the next micturition the stream would suddenly stop, and continue when he assumed the horizontal position. Soon after this a small blood-clot would pass through the urethra. The urine was normal in quantity, and he experienced no pain or difficulty in voiding it. The blood was always thoroughly mingled with the urine, was as profuse at the commencement as at the end of the flow, and never occurred independent of micturition. During the four or five days which an attack would last the amount of blood lost each day was about equal in quantity. Occasionally during the day he would pass urine which was clear, but these specimens may have contained blood-corpuscles.

Physical examination gave negative results. Although the urine was repeatedly examined, no albumin was found in it.

There was no cystitis or urethritis. Microscopical examination of the urine revealed no abnormities except the presence of blood-corpuscles, a few uric-acid crystals, and bladder cells.

The sound failed to show the presence of stone or villous tumor of the bladder, which were suspected. In September last he had an unusually severe hæmorrhage. He became somewhat anæmic and emaciated. The amount of blood he was losing caused extreme weakness. Gallic acid, in fifteen-grain doses, controlled the hæmorrhage. Ordered the gallic acid to be taken a few days before each expected return, and continued through the usual period of hæmorrhage. Since that time two months have elapsed, and the hæmorrhage has not returned.

During this last attack I was called to see him one night (December 19th), and found him suffering from some prodromal apoplectic phenomena: a full and bounding pulse, headache, dizziness, and numbness of the left arm and shoulder. His temperature was normal. Said he had had the same trouble before. These symptoms soon passed away.

The diagnosis of this case must be reached chiefly by exclusion. A careful consideration of the symptoms would point to the kidneys as the probable source of the hæmorrhage.

Accepting the hypothesis that the hæmorrhage was of renal origin, we must exclude the lesions occurring in those organs which could give rise to this condition, such as carcinoma, Bright's disease, abscess, etc., when we consider the fact that the microscope failed to show any evidence of renal disease, that at no time was there any albumin present, and that the urine was passed in normal quantities. In cancer of the kidney the hæmorrhage is sometimes profuse and intermittent in its occurrence, but cancer cells will be found in the urine.

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[*] Baldwin, "Am. Jour. of the Med. Sci.," vol. xiii, p. 299; Bennett, "Edinb. Med. Jour.," Jan., 1852; Guersant, "Dic. de méd.," t. xxvi, p. 584; Lebert, "Berliner k. Woch.," Sept. 18, 1871; Lewis, "N. O. Med. Jour.," vol. ii, p. 629, and vol. iv, p. 174; Melier, "Mém. de l'acad. de méd.," t. x, p. 722; Peters, "Med. Rec.," Feb. 21, 1885, p. 217; Ripley, *ibid.*, p. 217; Schrötter, "Sitz. d. k. k. Acad. zu Wien," Bd. lxii, Abth. ii; Smith, "Med. Rec.," Feb. 27, 1886, p. 238.

[†] La Roche, *op. cit.*, p. 471.

[‡] Jacobi, "Jour. of the Am. Med. Assoc.," Feb. 5, 1887, p. 166.

[#] Ripley, *ibid.*

[‖] See, also, Jayne, "Med. News," Nov. 10, 1888, p. 520; Chirone, "Gaz. hebdom.," 1875.

[△] Nothnagel, "N. Y. Med. Jour.," Jan. 3, 1885, p. 14; Sassetzky, Virchow's "Arch.," 1883.

[◊] "Med. Rec.," Feb. 11, 1888, p. 146.

[‡] "Trans. of the Ninth Int. Med. Cong.," Washington, 1887.

[↕] "Mal. des reins," vol. iii.

No *general condition*, such as malarial poisoning, could be discovered which would be of ætiological value. The presence in the urine of the corpuscular elements of the blood, as shown by the microscope, excludes the so-called hæmoglobinuria or paroxysmal hæmaturia, a condition in which the hæmoglobin is set free from the blood and appears in the urine.

Finally, that form of hæmaturia due to the presence of a small parasite, the *Bilharzia hæmatobia*,* occurs only in warm climates and may therefore be excluded.

The fall which he had some three weeks before the hæmorrhage first appeared may have some ætiological significance. Cases mentioned by Ashhurst, Roberts, Beale, and others, show that any sudden muscular strain, a fall, or a jar, will often rupture a small renal blood-vessel, usually a capillary in the Malpighian tufts, and be followed by attacks of hæmaturia which may return at intervals. In this case the absence of blood-casts in the urine would show that the hæmorrhage came from the pelvis of the kidney, if indeed it was of renal origin.

At my visit to the patient on the night of December 19th I examined his heart and found a slight accentuation of the aortic second sound, indicating the presence of arterial degeneration. This, with the occurrence on several occasions of apoplectic symptoms, seems to have some significance. It appears to me like a case of *essential* hæmorrhage, due to a general condition of the vascular system and specially localizing itself in the kidneys, just the same as the loss of blood coincident with ovulation is essential, relieving the vascular turgescence of the generative organs present at that period. That this discharge relieves a state of vascular tension is shown by those peculiar cases of vicarious menstruation where a more or less regular escape of blood takes place from parts other than the uterus, and it does not seem impossible that the hæmorrhage which took place from this man's kidneys relieved the tension of a vascular system overburdened by fibroid changes, thus preventing the apoplectic seizures which might otherwise have occurred. Still, should this be the case, it does not explain the regular return of the discharge, which makes the case of such peculiar interest.

114 West 104th Street.

**The Microbe of Diphtheria.**—"The announcement of the discovery of the microbe of diphtheria by MM. Roux and Versin, of the Pasteur Laboratory, referred to by our Paris correspondent, has led somewhat prematurely to sanguine hopes that the disease will now be amenable to prophylaxis by inoculation. We may remind our readers that the micro-organism of diphtheria has been before now discovered by such investigators as Oertel, Klebs, and Loeffler. Nevertheless, but little fruit in the direction of successfully combating this highly fatal disease has yet accrued from these researches. We await with interest the full details of this latest inquiry, and shall be glad to see to what extent MM. Roux and Versin have advanced beyond the stages reached by their predecessors in this field."—*Lancet.*

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## THE ASCENT OF MAN.

The upright posture has been supposed to have its disadvantages. This consideration has led some one to suggest that the fall of man consisted in his getting upon his hind-legs. The fall, then, according to such persons, was a fall upward. This, they say, has had some baneful results. Uprightness and progression demand fearful penalties. Gravity is always at work to prevent humankind from being too happy. The animal mechanism, despite weak points here and there, is a relatively perfect structure when in the horizontal posture. Once it assumes the vertical, all this is changed. The weak points are exposed, and the entire structure is strained. For an animal that goes on all-fours the valves in the veins are sufficient; but for man most of them are inadequate. Hæmorrhoids, and their frequently accompanying curse, prolapsus ani, are certain agonizing penalties paid for the pleasure of walking on two feet instead of four. The poetic assertion that men were made upright and perfect is slightly weakened by the subordinate clause: "but they have sought out many inventions." Another source of trouble is found in the scars that appear to be the remains of organs or glands that have disappeared through inactivity. These are sometimes the seat of disease and harboring-nests for pathogenetic germs. Weakness is blended with strength. The law of heredity preserves the former with as much pertinacity as the latter, leaving to the survival of the fittest the improvement of affairs by a slow process of elimination.

Our upright posture has been held to be the cause of more ills and exposure to strain than would at first thought seem possible. "Descent and Disease," a paper by R. G. Eccles, M. D., in the "Brooklyn Medical Journal," sets this forth with admirable directness and skill. The doctrine of evolution is the author's working hypothesis, the "Open, sesame!" to myriads of Nature's secrets. By its light, countless doors have been found that earlier seemed mere baffling *culs-de-sac.* To withdraw this conception from the domain of science would be about as difficult as a return to the Ptolemaic system of astronomy. If pathology follows in the wake of physiology in making use of the evolutionary doctrine of the descent—or, rather, the ascent—of man, much that is contained in works on practice, gynæcology, and even surgery may become as antiquated as the chapters on phlogiston in old books of physics and chemistry. A knowledge of how a thing grew, how it came to be as it is, constitutes an important guide to its successful management. It is necessary to search for the persistent causes of disease along the route of apparent or real development of the human race, from the unicellular amœba to the highly differentiated Caucasian. Heredity tells the story of the experiences of the lower animals as well as of our known human progenitors. The history of our weakness and strength is thus chronicled in the human frame. The most persistent causes of disease in the *Bimana*, as Dr. Eccles conceives them to be, are the following:

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* Discovered by Dr. John Harley.

1. A circulatory system that is an imperfect mechanism for an animal in the upright posture. 2. Canals or passages which mark the places of parts functionally active in animals below us. Within these, congenital cystic tumors are of frequent occurrence. B. J. Bland Sutton, F. R. C. S., in a lecture at the Royal College of Surgeons, London, enumerates them as follows: (*a*) The curious recess at the top of the pharynx, which brings the infundibulum of the third ventricle into relation with the buccal involution; (*b*) the neurenteric passage, which brings the central canal of the spinal cord and the alimentary canal into relation round the caudal end of the notochord; (*c*) the post-anal gut; (*d*) the bronchial arches; and (*e*) the developmental history of the testis, ovary, and Wolffian duct. Another one, says Dr. Eccles, is found in the fœtal tongue, running from the foramen cæcum to the origin of the middle portion of the thyreoid gland. It is a favorite place for dermoid cysts. Then there is the œsophageal cæcum of veterinarians. This is a blind pouch found in elephants, camels, hogs, etc. Dr. Albrecht, of Brussels, has traced it out as a remnant of the air-bladder of fishes. Its mark appears in the human embryo, and, although closed at birth, remains as a weak spot for the development of pharyngocele. 3. The thyreoid gland, appearing in all animals above amphibians. 4. Imperfect uterine supports for an animal that does not go upon all-fours, and a lessened antero-posterior pelvic diameter, due also to the upright posture. The pressure constantly exerted by the weight of the upper part of our bodies upon the bones of the pelvis has seemed to change the cuneiform outlet of the negro successively into the square of the Mongolian, the round of the Indian, and finally the oval of the Caucasian. The weight and volume of the pelvic organs appear to have altered the box-shaped pelvis of quadrupeds into the wedge-shaped pelvis of man. Every difference between the pelvis of a four-footed animal and that of a Caucasian is just what might be expected under an incessant strain with conditions as they are. This might be contemplated with some complacency if human heads diminished correspondingly in size. Unfortunately, the reverse is the case. The conditions of propagation seem destined to great embarrassment, and the race appears likely to become less prolific, which may not be a disadvantage. 5. The upright posture, especially in pregnant woman, has for ages put a strain upon the capillaries of the spinal region, and has tended to cut off the blood supply in the growing vertebræ. This, it is suggested, has greatly increased the liability of infants to spina bifida. It may also have helped to do away with the caudal appendage that our humbler cousins still possess, and of which the os coccygis is the rudimentary form buried in the tissues. Prolapse of the umbilical cord is also alleged to be due, when it occurs, to the upright posture of the pregnant woman; but surely this statement is open to serious doubt.

Heredity must be recognized as repetition. An animal that develops by its law must repeat the steps which produced it, wholly or in part. Blood must flow through all the old channels before it can reach the place where it can begin to develop the new ones. Pathology must seek to put itself upon a scientific basis by attempts at broad generalizations. Chemical, botanical, electrical, and physical theories have led to much substantial progress in therapeutics. Is it unreasonable to suppose that the hypothesis that originated in the brain of Herder, the speculations of Lamarck and Darwin, Wallace, Huxley and Morse, Mivart and Haeckel, together with those of Cope, Lankester, Döllinger, and Klein, may yet do as much for pathology?

## THE PLACE OF EVOLUTION.

THAT the hypothesis of evolution has not arrived at the dignity of a theory is of very little consequence. Whether it is true or false is of comparatively slight moment. As Copernicus says: "It is not necessary that hypotheses should be true or even probable; it is sufficient that they lead to results of calculation which agree with observations." Like the $x$, $y$, $z$ of mathematics, the doctrine of evolution holds an important place. It has led to discoveries impossible without it, and must be held in grateful remembrance always, whatever its ultimate fate. The way to find out how the universe came to exist is to study the universe. The hypothesis of evolution seems capable of proving a real vantage ground in the warfare against disease. Yet it may not prove so, and then it will be an easy thing to give it up as a working hypothesis in this particular sphere. Science labors not for the glory of a single idea. Its aim is to ennoble human life by making it healthier and happier and increasing material prosperity. When Molyneux fancied that the observations of the nutation of the earth's axis destroyed Newton's theory of gravitation, he tried to break it softly to Sir Isaac, who only answered: "It may be so; there's no arguing against facts." Such is the calm serenity of the flexible mind, ever open to conviction, above narrow prejudice or personal preference, and loving truth for truth's sake.

A word more concerning fallen man, who fell upward. Is man a degenerate animal? Is humanity doomed to early extinction? No! Pessimism has no scientific basis. It is contrary to reason. Man survives, and is likely to survive, because the fittest to live, move, and have his being in this delightful but very imperfect world. Now, the fittest is not the ideal by any means. It is simply the ideal of the situation, the creature best adapted to its surroundings, the one fittest to survive, the only one that can survive. Were absolutely perfect man a possibility, environment—which is by no means perfect—would soon be too much for him, and speedy extinction his inevitable destiny. Balance once destroyed, and harmony out of the question, humanity must go. But, like the policeman in the comic opera, it does *not* go. It stays, with all its imperfections on its head—and elsewhere. As a mechanism, the human body is in some respects imperfect. The exposition of its alleged persistent weak points referred to in the preceding article must convince even the most arrogant of this melancholy fact. Even if not exactly poor worms, we are poorer in spots than was formerly believed. Yet there is comfort in the situation after all. It is well to remember that there are two kinds of perfection, the mathematical and the utilitarian. And the glory of the one is not the glory of the other. The first is quite outside the sphere of vital action. It is the prerogative of minerals and machinery. Man in mathematical perfection could not exist for a single instant. The proposition must be dismissed. Imperfect as it is, the human body is the best possible under the circumstances. Its imperfections are inevitable and essential, the result of the adaptation of means to the greatest number of ends.

## THE POPULATION OF THE FUTURE.

WHAT, then, of mankind in the future, according to the evolutionary idea? Civilization everywhere has had for its antecedent the increase of population. Numbers beyond the means of subsistence constitute a never-ceasing requirement for skill, intelligence, and self-control, and involve the exercise and growth of these qualities. The peaceful struggle for existence in a society that becomes ever more complex calls for an increase of the nervous centers in mass, complexity, and activity. The larger emotion needed as the source of energy for men who must hold their own and bring up families under intensifying competition is, other things being equal, the correlative of larger brain. In the original cost of construction and in subsequent cost of working, the nervous system must become a heavier tax upon the organism. This implies a diminished reserve of material for race maintenance, owing to the costliness of nerve structure and nerve function. But this greater emotional and intellectual power and activity must be understood as becoming, by small increments, organic, spontaneous, and pleasurable. The higher nervous development and greater expenditure in nervous action must not be taken to mean an intenser strain or a mentally laborious life. Even now, when relieved from the pressure of necessity, the Caucasian's passionate energy finds voluntary expression in enterprises and activities which the savage could not possibly keep up to satisfy urgent wants. In still higher degree our descendants seem destined to find the joy of living in careers entailing even greater mental expenditure. The demand for increased material to establish and carry on psychical functions will be a constitutional demand. Evolution points to a greater adjustment of man to his surroundings. In all its aspects, whether general or special, it is an advance toward equilibrium. Man, as now constituted, fails in certain matters. Failures to meet some of the outer actions to which he is exposed—actions mostly involved, remote, irregular—and failures to counteract the separate and joint forces amid which the organism exists, are the sum and substance of man's incompleteness. "Were there no changes in the environment but such as the organism has adopted changes to meet, and were it never to fail in the efficiency with which it met them, there would be eternal existence and universal knowlege."

The necessary antagonism of individuality and genesis not only fulfills with precision the *a priori* law of maintenance of race, from monad up to man, but insures final attainment of the highest form of this maintenance, in which the amount of life shall be the greatest possible, and the births and deaths the fewest possible. War is becoming unfashionable to a certain extent, accidents are fewer and fewer as civilization advances, disease in many forms is now known to be preventable, and these forms will doubtless be prevented in the future, women are becoming better instructed in regard to their place in nature and the care of their offspring, and men are learning how to value and care for women so as to afford them the best health and development. Excess of fertility has rendered the process of civilization inevitable; and the process of civilization must inevitably diminish fertility and at last destroy its excess. Pressure of population has been the proximate cause of progress, producing the original diffusion of the race, compelling men to abandon agriculture, forcing them into the social state, and making social organization inevitable. It has developed all social sentiments and stimulated to progressive improvements in production, to increased skill and intelligence, and to closer contact and more mutually dependent relationships. When the habitable parts of the globe are raised to the highest state of culture, when all processes for the satisfaction of human wants are brought to perfection, when the intellect is developed to competency for its work and the feelings are trained into complete fitness for social life, the pressure of population must gradually bring itself to an end. Humanity seems destined to excel in quality rather than in numbers. American mothers may some time share the proud position and dignity of the lioness in the fable, who, when twitted in an assemblage of other animals with the fact of producing only one at a birth, replied grimly and much to the point: "But that one is a lion." The two, three, or possibly four children in the families of the future promise to be citizens worthy of the State.

How may this further evolution, this higher life, this greater co-ordination of actions be expected to show itself? This may be answered by a review of present human needs. Numbers are no longer a prime necessity, and mechanical appliances are fast supplanting brute force. Human progress in the future points not to numbers, strength, or agility. There is still a need for increased mechanical skill—the co-ordination of complex movements—for awkwardness entails injuries and death, and the complicated tools of civilization require an increasing delicacy of manipulation. The advance in industrial and æsthetic arts implies a corresponding development in the executive and perceptive faculties of man. Advances in art and mechanical skill necessarily act and react. There is also ample room for an advance in intelligence, and a great demand for it as well. Life is shortened by ignorance. It kills more children than any disease. In attaining complete knowledge of our own nature, in ascertaining the conditions of existence to which we must conform and in discovering the means of conforming to them, there is abundant scope for intellectual progress. In morality—the power of self-regulation—there are also vast possibilities of improvement. The further cultivation of the will is an essential factor in larger and more complete living. Want of will more than want of knowledge betrays poor humanity into countless imperfections of conduct. Recognition of the proper course is not the only thing needful. There is a further prerequisite—a due impulse to pursue that course. Sentiments responding to the requirements of the social state and emotions that find their gratification in duties fulfilled must be more fully developed before the crimes, excesses, dishonesties, and cruelties that now so greatly abbreviate life can cease. Thus it will be perceived that future evolution—a more complete moving equilibrium—is likely to take the direction of higher intellectual and emotional development, together with its correlative and complement, increased mechanical skill.

## *MINOR PARAGRAPHS.*

### NATURAL AND ARTIFICIAL CARLSBAD WATER.

It seems that Mr. Carl H. Schultz, the well-known maker of artificial mineral waters, has been sued in the Circuit Court of the United States for the Southern District of New York by the "City of Carlsbad" and numerous other complainants associated in the action with the Eisner & Mendelson Company, of Philadelphia, the substance of the complaint being that the sale of Mr. Schultz's artificial Carlsbad water is an infringement of certain rights appertaining to the complainants. Of the merits of the question it is not within our province to speak pending the court's decision in the case, but we may mention that the defendant's answer to the complaint is of interest from its radical nature, inasmuch as it denies the existence of any "City of Carlsbad" and the alleged city's right to make laws, and also from its statements as to the character of the natural and pretended Carlsbad products sold for a long time, until their nature was publicly exposed, by the alleged city. Mr. Schultz charges that ancient municipality with having for years palmed off upon the credulous public ordinary Glauber's salt, worth two cents a pound, under the name of Carlsbad Sprudelsalz, at three dollars a pound. He states, also, that his artificial Carlsbad water, being made according to the best ascertainable formulæ, is in reality to be preferred to the natural water bottled for exportation, since the latter spoils in the course of a fortnight. In view of Mr. Schultz's long and honorable career in the trade in New York, his statements must carry great weight, whatever may be the outcome of this action at law.

### THE MEDICAL CORPS OF THE ARMY.

It will be seen by a notice which we print in this issue that a board is soon to assemble in New York for the examination of candidates for appointment to the medical corps of the army. We learn that at present there are seven vacancies in the corps, and that another will occur in July, on the retirement of a medical officer. There is an opportunity, therefore, for eight young medical men to obtain positions in the corps during the next few months. Membership in the corps is in the highest degree honorable, and it affords facilities for the pursuit of certain branches of research that are generally beyond the reach of men who have an income to earn in civil life. It is an advantage also to have passed the strict examinations required for admission. On these accounts it is reasonably certain that the vacancies will be filled with men of such acquirements as to make them fit associates for the gentlemen now constituting the corps.

### THE EASTERN DISPENSARY.

We lately commended the quality of the work done by this institution. It appears from the "Fifty-sixth Annual Report," for the year 1888, that the dispensary is also to be commended for the amount of work done by it. In the years 1886, 1887, and 1888, the numbers of patients treated were 22,396, 27,570, and 38,493, respectively; those of the prescriptions dispensed, 26,746, 39,691, and 58,659; and those of consultations and visits (not specified for 1886), 48,589 and 70,597. The total expenses for the respective years were $5,143.20, $8,460.68, and $10,584.60, *i. e.*, they were more than doubled in three years. Additional space, as a consequence, is needed, also more money, and we hope that the institution will soon be enabled to meet its enlarged necessities.

### THE COMING PHARMACOPŒIAL CONVENTION.

In a little more than a year from now, as is stated in a notice to be found elsewhere in this issue, the convention of 1890 for the revision and publication of the United States Pharmacopœia will be held in Washington. It is pleasing to observe to what extent the labors of the convention—necessarily onerous—have been facilitated by the members of the convention of 1880. This is shown particularly in Dr. Robert Amory's timely and detailed notification, in the excellent character of the present pharmacopœia, and in the fact that a considerable sum of money was saved by the last convention and is now available for the purposes of the convention of 1890. It is to be hoped that the various corporations entitled to representation will send their best men to Washington, for the work is one that none others can do well.

### THE ADMINISTRATION OF IRON IN CHLOROSIS.

At a recent meeting of the Obstetrical Society of London, an account of which we find in the "British Medical Journal," a paper having been read by Dr. W. Stephenson, of Aberdeen, "On the Relation between Chlorosis and Menstruation," Dr. Leith Napier supported the opinion that chlorosis depended upon climate to a certain extent; and spoke of the rarity of its coincidence with tuberculosis. As to the form of iron to be given, Blaud's pills were very useful, but the speaker preferred an old Berwickshire surgeon's prescription of a mixture of equal parts of iron filings, cream of tartar, and licorice powder, as much as would cover a shilling being given daily.

### "THE AMERICAN ARMAMENTARIUM CHIRURGICUM."

We have received from Messrs. Tiemann & Co. a copy of their new catalogue of instruments, a volume of 846 pages, containing 3,414 illustrations, which include all the paraphernalia, apparatus, and instruments likely to be used or needed in any surgical operation upon the human body. Many of the instrument cuts are accompanied by descriptive text and instruction in their use, and not a few by somewhat lengthy extracts from works on surgery and articles that have appeared in medical journals. While these extracts—they might properly be classed as monographs—contain much information, we think they are out of place in a surgical catalogue, as their introduction there would seem to presuppose a lack of knowledge or of books, or a failure to keep up with the advances in surgery, as chronicled in books and journals, on the part of the surgeon. It is in keeping, however, with the American tendency to overdo, and as such calls for only passing comment. The mechanical part of the book is very creditable, the illustrations, like the instruments made by Tiemann & Co., are excellent, and the catalogue, as a whole, is one that will prove invaluable as a book of reference to surgeons and physicians.

### AN OPENING FOR A DOCTOR.

Much has been said about the overcrowded state of the medical profession in the United States. As we have often implied, the evil is more apparent than real, and there are still large districts in which there is actually a dearth of practitioners. One such region, in Tennessee, has lately been brought to our attention by Mr. James H. Cocke, a merchant of the town of Lambert. Mr. Cocke states that there is no practicing physician within a district eight miles square, including that town. He is therefore desirous of inducing one to settle in that place, where, he says, there is "a good paying practice." He prefers a married man, and says that he will supply him with a comfortable house for a small family at a merely nominal rental as an inducement to the right kind of man.

### RIGGS'S DISEASE UNDER A NEW NAME.

In the "Gazette hebdomadaire de médecine et de chirurgie" for March 1st, M. David proposes the term Fauchard's disease for the affection of the dental alveoli now known as Riggs's disease. It seems that Fauchard, the "father of dental surgery," described the disease in 1728, but he called it a species of scurvy. On this account, and because Fauchard's description was meager, we think our countryman, Dr. Riggs, the better entitled of the two to any credit that the name may imply.

### THE BORDEAUX POLYCLINIC.

The members of the staff of this institution, M. E. J. Moure, M. A. Pousson, and M. W. Dubreuille, have founded a semi-annual journal of general medicine, the "Annales de la polyclinique de Bordeaux." The first number, for January, 1889, an octavo of sixty-four pages, contains interesting articles by all those gentlemen, and presents a creditable appearance.

### ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 3, 1889:

| DISEASES. | Week ending Mar. 26. | | Week ending Apr. 3. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 7 | 2 | 8 | 5 |
| Scarlet fever | 435 | 61 | 446 | 62 |
| Cerebro-spinal meningitis | 3 | 1 | 4 | 3 |
| Measles | 184 | 19 | 134 | 12 |
| Diphtheria | 158 | 39 | 171 | 54 |

**Bellevue Hospital Medical College.**—The following changes have occurred in the corps of teachers: Dr. E. L. Keyes has resigned the chair of genito-urinary surgery, syphilography, and dermatology, and Dr. Samuel Alexander, of the class of 1882, has been appointed to fill the chair. Dr. Carlos F. MacDonald, Superintendent of the State Asylum for Insane Criminals at Auburn, of the class of 1869, has been appointed professor of mental diseases.

**An Army Medical Board.**—The Surgeon-General of the army gives notice that a board will be in session in New York from May 1 to May 31, 1889, for the examination of candidates for appointment in the medical corps of the army, to fill existing vacancies. Persons desiring to present themselves for examination by the board should make application to the Secretary of War for the necessary invitation before May 1, 1889, stating the place of birth and place and State of permanent residence, and inclosing certificates based on personal knowledge from at least two persons of repute as to American citizenship, character, and moral habits. Testimonials as to professional standing from professors of the medical college from which the applicant graduated, and of service in hospital from the authorities thereof, are also desirable. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a *regular medical college*, evidence of which, his diploma, must be submitted to the board. Further information regarding the examinations and their nature may be obtained by addressing the Surgeon-General, United States Army, Washington, D. C.

**A German Dermatological Society.**—According to the "British Medical Journal," a meeting was recently held, in which sixty-nine dermatologists from Germany, Austria, and other countries took part, at which it was resolved to found a German Dermatological Society, to meet once a year, in Whitsun week. This year's meeting is to be held at Prague, with Professor Pick, of that city, as president.

**M. Pasteur.**—The "Lancet's" Paris correspondent states that the Emperor of Austria has conferred the Order of the Crown of Iron on M. Pasteur, giving him the right to the title of baron and the insignia of nobility.

**The Death of Dr. George Johnston, of Dublin,** is announced in the "British Medical Journal" as having taken place on the 14th of March. The deceased, who was seventy-five years old, was a well-known obstetrician, for seven years the master of the Rotunda Lying-in Hospital.

**Instruments for Massage.**—The instruments for massage described in our last issue, on page 362, were invented by Mr. T. Cecil, lecturer on the art of massage at the Bellevue Hospital Training School for Nurses.

**An International Congress of Therapeutics and Materia Medica.**—In connection with the Paris exposition of 1889, an International Congress of Therapeutics and Materia Medica will sit at the *Hôtel des sociétés savantes*, No. 28 rue Serpente, from the 1st to the 5th of August. All physicians, pharmacists, and veterinarians who register and pay the fee of 10 francs will be considered as members. The committee of organization is composed of M. Moutard-Martin, M. Dujardin-Beaumetz, M. Constantin Paul, M. P. G. Bardet, M. Labbé, and M. R. Blondel. Communications should be sent to Dr. Bardet, adjunct secretary-general of the committee, No. 119 *bis*, rue Notre-Dame-des-champs, Paris. Titles of papers to be read should be communicated to Dr. Bardet before the 15th of May. Each subscriber will be entitled to a copy of the volume of "Transactions." The following subjects of discussions are already announced: "On Analgesic Antithermics, their Chemistry and Pharmacology, their Physiological Action and Therapeutic Uses, and the Laws that point to a Relation between Chemical and Physiological Function" (reporter, M. Dujardin-Beaumetz); "On the Antiseptics suited to the Various Species of Pathogenetic Microbes, the Comparative Value and Special Action of Antiseptics, their Mode of Absorption, and the best Methods of administering them" (reporter, M. Constantin Paul); "On Cardiac Tonics, their Nature and Special Actions, and the Relative Value of Plants and their Active Principles, the Alkaloids and Glucosides" (reporter, M. Bucquoy); "On New Vegetable

Drugs" (reporter, M. Planchon); and "The Unification of the Weights and Measures used in Formulæ, and the Utility of an International Pharmacopœia."

**The University of Vermont.**—Dr. A. M. Phelps, of New York, has been elected to the chair of surgery. The course in surgery begins on the 15th of May.

**The Beaumont Hospital Medical College,** of St. Louis, held its annual commencement on Thursday, March 28th.

**The New York Academy of Medicine.**—We have been asked to publish the following: "The Council of the Academy, at its meeting on March 26th, appointed Dr. A. L. Loomis, Dr. A. Jacobi, Dr. E. Herrick, Dr. G. A. Peters, and Dr. F. A. Castle a Building Committee. The final payment on the lots Nos. 17, 19, and 21 West Forty-third Street must be made on the first day of May, when the transfer of the title will take place. The Academy is already in possession of sufficient means to erect the new building, but lacks several thousand dollars of the amount necessary to purchase the site. Fellows of the Academy who have not already contributed to the building fund should send their donations without delay to Dr. J. E. Janvrin, treasurer of the committee, at 191 Madison Avenue. A number of fellows have given $1,000, and the list of amounts in three numerals is already quite extended, but needs to be more than doubled. The need for prompt subscriptions is urgent."

**The Medico-chirurgical College, of Philadelphia,** held its annual commencement exercises on Thursday, the 4th inst. On the preceding evening Professor Thaddeus A. Reamy, of Cincinnati, delivered the annual oration before the Alumni Association, after which the association gave a dinner in honor of Dr. Reamy.

**The Medical Microscopical Society of Brooklyn** held a meeting on Wednesday evening, the 3d inst., at the Hoagland Laboratory, at which Dr. Heitzman gave a demonstration of the minute structure of the basis substance of bone tissue, and Dr. Jones a demonstration of ulcers on mucous surfaces.

**A Medical Bill of the Olden Time.**—Dr. Wiggins, of Huntington, Long Island, a century ago, had some of the "poor practice" of that town. He has left a bill against the supervisors for the treatment of an Indian maiden, Catharine by name:

| | £ | *s.* | *d.* |
|---|---|---|---|
| "1763, March 10, Indian Catig to visit, bleeding & drops.................. | 0 | 5 | 9 |
| " April 1, Do to visit, pills, bleeding & drops. | 0 | 5 | 0 |
| " Do Cash po. vial, drops 2*s*....... | 0 | 2 | 10 |
| " April 30, Do to visit & med.............. | 0 | 8 | 0 |
| " Do to Loaf Bread, 8 lb. pork, 7 lb. flour & rice............. | 0 | 8 | 6 |
| | £1 | 10 | 1 |
| " Do to 2 lb. sugar & Quart rum.. | | 2 | 10." |

From this we judge that Dr. Wiggins followed up his antiphlogistic regimen with an ample diet and stimulation.

**Changes of Address.**—Dr. Alfred Ludlow Carroll, from New Brighton, Staten Island, to No. 30 West Fifty-ninth Street, New York; Dr. Sherwood Dunn, formerly of New York, from No. 14 avenue de l'Opéra to No. 15 rue des Pyramides, Paris.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 17 to March 30, 1889:*

Newton, Richard C., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. 272, November 21, 1888, is extended to include May 22, 1889. Par. 17, S. O. 64, A. G. O., Washington, March 19, 1889.

The resignation of Richard C. Newton, Captain and Assistant Surgeon, has been accepted by the President, to take effect May 22, 1889. Par. 18, S. O. 64, A. G. O., Washington, March 19, 1889.

Maus, Louis M., Captain and Assistant Surgeon (Fort Schuyler, New York Harbor), will proceed to Camp S. B. Luce, Fisher's Island, N. Y., with Battery K, 5th U. S. Artillery, and report to the camp commander for a tour of rifle practice. Par. 10, S. O. 158, Headquarters Division of the Atlantic, Governor's Island, New York City, Aug. 2, 1889.

Atlanta Barracks, Ga., established by G. O. 28, A. G. O., March 21, 1889.

*Deaths.*

Barnett, Richards, Assistant Surgeon, died March 27, 1889, at Fort Riley, Kansas.

Alexander, R. H., Lieutenant-Colonel and Surgeon, died March 29th, at Los Angeles, California, as reported by telegram from the commanding officer.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the three weeks ending March 30, 1889:*

Hesler, Frederick A., Assistant Surgeon. Detached from the Naval Hospital, New York, and ordered for examination preliminary to promotion.

Ogden, Frederick N., Assistant Surgeon. Ordered to the Receiving-ship St. Louis, Navy yard, League Island.

Bryant, Patrick H., Assistant Surgeon. Detached from the Receiving-ship St. Louis, and ordered to the Naval Hospital, Chelsea, Mass.

Farwell, W. G., Surgeon. Detached from the Receiving-ship Franklin April 1st, and ordered to the Naval Hospital, Norfolk, Va.

Marmion, R. A., Surgeon. Ordered to the Receiving-ship Franklin.

Ferebee, N. McP., Surgeon. Detached from the Naval Hospital, Norfolk, Va., and placed on waiting orders.

Berryhill, Thomas A., Assistant Surgeon. Detached from the Naval Academy, Annapolis, Md., and ordered to the Naval Hospital, New York.

Heffenger, A. C., Passed Assistant Surgeon. Ordered to appear before the Retiring Board, Washington, D. C.

**Marine-Hospital Service.**—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the five weeks ending March 30, 1889:*

Magruder, G. M., Assistant Surgeon. To report to the Supervising Surgeon-General in person for temporary duty. March 1 and 23, 1889.

Kinyoun, J. J., Assistant Surgeon. Relieved from duty at Baltimore, Md., to rejoin his station at New York. March 18, 1889.

Perry, J. C., Assistant Surgeon. Commissioned by the President, March 21, 1889. Ordered to the Marine Hospital, Mobile, Ala., for temporary duty. March 22, 1889.

Smith, A. C., Assistant Surgeon. Commissioned by the President, March 21, 1889. Ordered to the Marine Hospital, Louisville, Ky., for temporary duty. March 22, 1889.

Bailhache, P. H., Surgeon. Relieved from duty at Philadelphia, Pa., to assume charge of the Service at San Francisco, Cal. March 28, 1889.

Sawtelle, H. W., Surgeon. When relieved at San Francisco, Cal., to assume charge of the Service at Portland, Me. March 28, 1889.

Banks, C. E., Passed Assistant Surgeon. When relieved at Portland, Me., to assume charge of the Service at Vineyard Haven, Mass. March 28, 1889.

Ames, R. P. M., Passed Assistant Surgeon. When relieved at Vineyard Haven, Mass., to assume temporary charge of the Service at Philadelphia, Pa. March 28, 1889.

Magruder, G. M., Assistant Surgeon. When relieved at Louisville, Ky., to proceed to Memphis, Tenn., for temporary duty. March 28, 1889.

Stoner, J. B., Assistant Surgeon. To proceed to Pittsburgh, Pa., for temporary duty. March 28, 1889.

### Society Meetings for the Coming Week:

Monday, *April 8th:* Louisiana State Medical Society (New Orleans); New York Academy of Medicine (Section in Surgery); Lenox Medical and Surgical Society (private); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *April 9th:* Alabama State Medical Society (Mobile); Florida State Medical Society (Key West); New York Medical Union (private); Medical Societies of the Counties of Jefferson (quarterly—Watertown), Oneida (quarterly—Utica), Ontario (quarterly), Rensselaer and Tioga (quarterly—Owego), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Bergen, N. J. (annual — Hackensack), and Cumberland, N. J. (annual), County Medical Societies; Fairfield, Conn., County Medical Association (annual); Baltimore Gynæcological and Obstetrical Society.

Wednesday, *April 10th:* New York Pathological Society; New York Surgical Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Society of the County of Albany; Tri States Medical Association (Port Jervis, N. Y.); Pittsfield, Mass., Medical Association (private); Philadelphia County Medical Society.

Thursday, *April 11th:* New York Laryngological Society; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Societies of the Counties of Cayuga and Fulton (quarterly), N. Y.; South Boston, Mass., Medical Club (private); New London, Conn., County Medical Society (annual); Pathological Society of Philadelphia.

Friday, *April 12th:* New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties, N. Y.

Saturday, *April 13th:* Obstetrical Society of Boston (private).

## Proceedings of Societies.

### MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Meeting of February 25, 1889.*

The President, Dr. A. S. Hunter, in the Chair.

**Continued Discussion on the Value of Water in Therapeutics.**—Dr. A. Jacobi read a paper in which allusion was made to the fact that he had been expelled from a certain institution twenty years before on the charge of being guilty of using cold water in the treatment of sick children. Reference was made to rules as to the use of water given in papers already published by him.

Dr. S. H. Dessau believed that a leading cause of disease in infants would be stopped when nurses and mothers were taught to give an infant water instead of milk as a means of soothing it whenever it chanced to become restless. Cold water should also be given freely in summer diarrhœa. A daily bath was an excellent tonic for infants; it should be of warm water until after the fourth or the sixth month, when the temperature might be reduced a degree each week until baths of a temperature of 70° F. were given in winter, and of still cooler water in summer. Only the precaution should be taken to immerse the child slowly. The cold bath was the best means of obviating the tendency shown by strumous children to catarrhal affections. Sponging of the chest and spinal column was a good means of checking an attack of laryngismus stridulus. Convulsions in children, accompanied by fever, could be arrested by a cold pack; where they resulted from some irritation, a hot bath at 112° F. acted as a cerebral sedative.

He had successfully used cold enemata in summer diarrhœa, hot intestinal douches for the sciatica resulting from chronic colitis, and cold sponging along the spine as a tonic in chlorosis and phthisis, and had injected water subcutaneously in hundreds of cases for the relief of local pain.

Dr. Vincent Zolnowski read a paper in which he called attention to the importance of thoroughly studying the physiological principles involved in the use of water before attempting to make a practical application of them. The remedy was often as powerful for evil as for good, and the failures which attended the hydropathic treatment of diseases were but too often due to the method employed. Intelligent hydropathic treatment could not be learned from the text-books alone; on the contrary, good judgment and much experience were needed to enable one to make the action of water curative. In every case the condition of the kidneys, lungs, heart, and liver needed careful study. The previous life-history of each patient was to be investigated and the age taken into careful account. In the same person the treatment was to be varied each day to suit the varying condition of the circulation, temperature, and vital resistance. The atmospheric temperature must always be considered in deciding upon the degree of cold or heat required. Each individual had his own characteristics and was a law to himself. This law underlay his organism, and was to be ascertained if possible. Any mental distress lowered the vital resistance.

Water might be used as an antiphlogistic, as a sedative, as an excitant tonic, as a derivative, or as a solvent, but there were two general methods to be followed, which were: 1. The excitant. 2. The depressant.

As an excitant it should be used quickly and the degree of temperature proportioned to the degree of irritability to be overcome—that is, the less the degree of irritability the lower must be the temperature of the water used to get a reaction. The withdrawal of heat from the economy should be small in amount and correspond to the rapidity of its formation. This purpose could be attained by short washes or light sprays, combined with frictions.

In chronic diseases, with deep tissue changes and marked functional disturbances, it was necessary to increase the functional activity of most of the organs, to improve the condition of the blood, and, by improving the capillary circulation, to remove the residuum of those tissue changes. For these purposes he used hot fomentations, dry packs, or wet packs under blankets, of long duration, followed by a cold half-bath or a cold shower-bath of short duration, and then by rubbings and active movements endeavored to restore warmth quickly.

The depressant method was of two sorts, antiphlogistic and sedative. In the antiphlogistic plan the heat must be withdrawn slowly, for, if it was abstracted suddenly and rapidly, the nerves were irritated, reaction took place, and the changes in the deeper tissues were thereby increased. Here he used half-baths, sitz-baths, wet packs of short duration, and wet compresses frequently changed. The sedative method was of use when the nerves were greatly excited. Heat was not then considerable, and its loss was but slowly restored. In such cases moderate or tepid temperatures were to be preferred, and the application continued only a few moments. A low temperature was from 43° to 54°, a medium temperature from 54° to 65°, and a tepid temperature from 65° to 80°.

The use of the cold pack followed by massage in the treatment of anæmia he would only call attention to as showing the effect of that procedure in the way of increasing assimilation and promoting the absorption of nutritive material from the digestive canal. An increase in the elimination of urea during the hours of the packs had been demonstrated. It had also been shown that a vaso-motor neurosis was the active element in the causation of neurasthenia or of that form of anæmia dependent upon a vice of assimilation and nutrition.

The varieties in the methods, and the differences in the effects of the hydropathic processes, could be best illustrated by giving the history of a few cases.

1. A man in active business, who had all his life been subject to indigestion, acidity of the stomach, constipation, and diarrhœa, noticed during the winter of 1885–'6 that he was very susceptible to cold. Pain and stiffness appeared in the shoulders and arms and spread over the entire body. The abdomen, face, neck and eyelids, and the sclerotic membranes of the eye shared in the general hardness and rigidity. He could lie in one position only fifteen or twenty minutes at a time. The hands became so painful that they had to be carried across the chest, and could scarcely be raised to the mouth. Russian baths and the usual treatment for rheumatic gout had been thoroughly tried without benefit. The case was finally diagnosticated by Dr. Janeway, Dr. McBride, and others who were seen in consultation as one of sclerodermia. The course was supposed to be inevitably progressive to a fatal end, and that very speedily.

The weight decreased in a few months from 209 to 163 pounds. The urine was found to be highly acid and loaded with urates. The constant current was applied for three months with the effect of only increasing the pain without lessening the rigidity. Purely hydropathic treatment was then adopted, the result of which was that the man's health was now nearly restored. The weight had increased to 184 pounds; the digestion had become good, the bowels regular, the movements of the legs almost normal, and those of the hands much improved; pain had entirely ceased; the tenderness of the body had disappeared; and the hardness had become limited to the fingers. The treatment, at first daily but gradually diminished to three times a week, had consisted of hot fomentations over the rigid parts followed by half-baths at a low temperature, and then by massage with goose-grease. Afterward this had been replaced by baths at 105° F., followed by a cold falling douche lasting a minute or two, the object being to stimulate the capillary circulation. At the present time the patient was receiving full wet packs, under blankets, an hour and a half in duration, followed by half-baths of medium temperature. The massage with goose-grease had been continued throughout.

2. This patient was a physician in New York, had been a victim of the morphine habit, and had been permanently cured in three months. The treatment had consisted mainly of a cold falling douche over the head and spine, a wet bandage worn night and day around the abdomen, covered with flannel and oil-silk and changed every four hours (for the relief of the tympanites), and (as a derivative for the insomnia) wet bandages on both legs from knee to ankle, put on cold and covered with flannel. As the minimum dose of morphine was reached, wine and coffee were used to remove the intense nervous depression.

3. This case was one of chronic articular rheumatism of twenty years' standing, complicated with mitral insufficiency. The patient was obliged to use crutches. He had been treated by many leading physicians. At the end of four months he was able to return to his duties, and had remained well during the eleven years since. The treatment consisted of hot fomentations over the painful joints, and half-baths of moderate temperature. Then wet packs of an hour's duration were used, and falling douches over the joints.

4. This patient was a physician who had been in practice for some time in the city of Mexico, where, from the climate and the diet, a lithæmic state had been developed, with infra-orbital neuralgia as its direct manifestation. The latter had lasted for four years, and had unfitted him for duty of any kind. Remedies had, of course, been tried in great variety, including a change of climate to Florida, and another to Cuba. He received hydropathic treatment daily for nine months and returned to Mexico well. At first he had hot douches over the liver and kidneys, followed by full baths of moderate temperature three times a week, and on the alternate days full wet packs under blankets for an hour, followed by a wet sheet at 75°. Wet compresses of medium temperature and short duration, frequently repeated, were applied over the infra-orbital nerve, and subsequently pin-douches of moderate temperature were used.

Dr. A. Seibert illustrated one of the internal uses of water by washing out the stomach of an infant, and made some remarks on the technique of this simple operation, and also on the conditions in which it was indicated. There were three of the latter: 1. Dyspepsia from bad feeding and overfeeding, with remnants of previous meals remaining in the stomach, where, being unacted on by the gastric juice, they fermented, and so infected the food taken at the next meal. This process went on continuously from meal to meal, but could be stopped entirely by a single washing out three or four hours after a meal, and giving nothing but barley gruel for the next two days. 2. Chronic enteric catarrh, often met with in the autumn, with inability to eat, and rapid loss of strength. One washing out, together with high irrigation of the rectum, cured these cases also. 3. Cholera infantum, such as that produced by tyrotoxicon, or that in which persistent vomiting was a prominent symptom. If there were no changes in the tissue of the brain, washing out the stomach would check this vomiting, and milk could be given and retained within an hour afterward. Twenty-six out of twenty-eight children so treated for this disease during the previous summer had recovered. The action of water was here purely mechanical, and simply removed fermenting matter. He added no antiseptic or other drugs to the water used, as being unnecessary and possibly harmful. The younger the child the easier was the treatment to apply, and the more certain the benefit which would result.

Dr. R. L. Parsons reviewed some of the external uses of water in nervous diseases, and especially the prolonged application of hot water in some maniacal states. Thus, a patient suffering from violent and destructive mania might be put into a warm bath the temperature of which was slowly increased to 105° or 110°, and kept there for half an hour or an hour, or more. Complete quietude would often be the result. For this treatment to be safe the heart and lungs must be sound, and the strength of the patient not exhausted. The head must be kept cool during its continuance, and it should be followed by a cold sponging, and the patient then put to bed with a fair amount of covering. If a maniacal patient was in an exhausted condition, he could be placed in a wet pack to advantage. This enforced rest without the employment of force by attendants, and allowed of sleep. It could be continued for one or two hours, followed by sponging with cool water, and could be repeated if necessary a number of times.

A warm bath at bedtime was an excellent preventive of aching and soreness during sleep, or of insomnia appearing after a few hours of sleep. For the latter purpose it was more effective if taken before the insomnia developed. Massage with an unguent would add to the good effect of the bath. When fever was developed from a state of mental distress or excitement, the condition must be recognized as one of low nervous tone and vital depression, and here a cool bath of short duration followed by manipulation, or, still better, a wet sheet and plenty of rubbing through the sheet, would prove the best sedative.

Dr. W. W. Van Valzah reviewed the rules which it was necessary to follow to get beneficial results from the internal use of hot water before meals. It should never be taken less than an hour or two before a meal, and should be drank very slowly. Where there was cardiac weakness the patient should lie down and take the water still more slowly, and not of a temperature sufficient to excite the heart. Otherwise, cardiac paralysis might suddenly ensue. The same caution in the use of hot water internally must be observed where there was a tendency to hæmorrhage, during the menses, and in diabetic subjects. The best test by which to ascertain when enough water was being taken was an examination of the density of the urine. When the urine was heavier than 1·016, or of a high color, more water as a diluent was certainly needed. The general effects of hot water internally were stimulating; but one peculiar effect was to be looked for, which in very nervous persons might occasion alarm. The desquamation of epithelium from the lower bowel was very much increased, so as to amount in some cases to a catarrh of the bowel. Here it was only necessary to go more slowly in the treatment for a time, and to give a simple carminative.

## Book Notices.

*Hunterian Lectures on Tension*, as met with in Surgical Practice, Inflammation of Bone, and on Cranial and Intracranial Injuries. Delivered before the Royal College of Surgeons of England, June, 1888. By Thomas Bryant, F. R. C. S., M. Ch. (Hon.) Roy. Univ. I., etc. London: J. & A. Churchill, 1888. Pp. 146.

Tension is a word which has of late been used much and in many senses, so Mr. Bryant defines it from a surgical standpoint as "distension or stretching of parts by a force acting from within," such as the growth of a neoplasm or the effusion of fluid. It is also used to denote the stretching of tissues which have been divided and brought together by sutures, the strain on the sutures from the elasticity of the tissues being the measure of the tension. The one subjective symptom is pain, which varies with the degree of tension and the quality and quantity of the nerve-supply to the part. "No tension means little pain; severe tension severe pain." It is the cause of most pain. The effects vary as the degree; if slight, it may only tend to maintain the inflammatory process; if severe, it acts powerfully to destroy the tissue. In wounds it may originate or keep up inflammation in a degree proportionate to its severity.

The second lecture is devoted to the effects of tension in inflammation of bone and its coverings. Here the author maintains that the pain is due to tension, and that its severity is a fair measure of its intensity. In acute inflammation of bone it is the chief cause of necrosis. Its relief is imperative on account of the unyielding nature of bone, and on account of the anatomical arrangement of the vessels, which favors blood stasis.

The third lecture, on cranial and intracranial injuries, is largely devoted to concussion of the brain. This term, he thinks, really means cerebral bruising or laceration with more or less hæmorrhage, and he proposes to call it "concussion and injury" of the brain. All injuries to the head should be estimated primarily with reference to the amount of damage the brain has sustained, and secondarily with reference to the risk of its becoming involved.

These lectures are valuable to the physician as well as to the surgeon, and will repay careful perusal.

### GENERAL LITERARY NOTES.

Among recent foreign publications we note the following:

F. Savy, Paris.—L. Ranvier, "Traité technique d'histologie." 2d ed. (18*fr.*)

L. Baudoin & Cie, Paris.—"Recueil de mémoires et observations sur l'hygiène et la médecine vétérinaires militaires." 2d series, vol. xii.

G. Masson, Paris.—Ad. Nicolas, "Chantiers de terrassements en pays paludéens." (10*fr.*) —— E. Follin and Simon Duplay, "Traité élémentaire de pathologie externe." Vol. vii, fasc. 3. (4*fr.*) —— P. Miquel and A. Rueff, "Traitement de la tuberculose pulmonaire par les pulvérisations biiodo-mercuriques." —— Ad. Nicolas, "La Bourboule actuelle." (3*fr.*) —— Bertillon, "Annuaire statistique de la ville de Paris pour l'année 1888."

Lecrosnier & Babé, Paris.—Schüle, "Traité clinique des maladies mentales." 3d ed., 2d fasc. (5*fr.* [Price of the complete work, 9*fr.*]) —— Auvard, "Travaux d'obstétrique." (24*fr.*) —— Baumel, "Maladies de l'appareil digestif." Vol. ii. (8*fr.* [Price of the complete work, 17*fr.*]) —— C. Bourdillon, "Psoriasis et arthropathies." (5*fr.*) —— Pauillet, "Étude médico-philosophique sur les pertes séminales involontaires, spermatorrhée." 3d ed. (3*fr.* 50.) —— H. Tappeiner, "Manuel de diagnostic chimique au lit du malade." (2*fr.*) —— M. Lamiot, "De la situation des fœtus et de la disposition des œufs dans le cas de grossesse gémellaire." (3*fr.* 50.) —— Journiac, "Recherches cliniques sur le délire hypochondriaque." (2*fr.* 50.) —— J. M. Charcot, "Œuvres complètes."

A. Bannaviant, Lyons.—F. Glénard, "De la palpation du foie par le procédé du pouce."

O. Doin, Paris.—Kuhn, "L'enseignement et l'organisation de l'art aux États-Unis." (10*fr.*) —— E. Olavide, "Du rhumatisme et des dermatoses rhumatismales." (1*fr.* 50.) —— G. Morice, "Étude descriptive des eaux de Néris-les-Bains et exposé critique de leurs indications et contre-indications." (2*fr.* 50.) —— A. Filleau and Petit, "Bulletin de la phthisie pulmonaire." (5*fr.*) —— Bédoin, "Hygiène publique à Chambéry." —— G. Bardet, "Formulaire annuel des nouveaux remèdes." (4*fr.*) —— Henri Verneuil, "Les grandes fièvres à travers les découvertes." (2*fr.* 50.) —— F. Raymond, "L'étude des maladies du système nerveux en Russie." —— Jules Rouvier, "Hygiène de la première enfance." —— O. Terrillon, "Leçons de clinique chirurgicale." (10*fr.*) —— Dujardin-Beaumetz, "Dictionnaire de thérapeutique." (100*fr.*) —— Laurent Sechyron, "Traité d'hystérotomie et d'hystérectomie par la voie vaginale." (11*fr.*) —— A. Deschamps, "Les névroses et le pessimisme." (1*fr.*) —— A. Corre, "Les criminels." (5*fr.*) —— L. Tillier, "L'instinct sexuel chez l'homme et chez les animaux." (3*fr.* 50.)

F. Alcan, Paris.—L. Pozzi, "Congrès français de chirurgie." 3d session. Paris, 1888. (14*fr.*) —— Féré, "Dégénérescence et criminalité." (2*fr.* 50.)

Rambervilliers, Paris.—Ladier, "De la prophylaxie des maladies épidémiques et transmissibles."

J. B. Baillière & fils, Paris.—Coste, "L'inconscient." (2*fr.*) —— Ludwig Edinger, "Anatomie des centres nerveux." (8*fr.*) —— Johannès Chaumier, "Essai sur le mal de tête." (2*fr.* 50.) —— F. A. Lelièvre, "Le vitalisme en médecine ou étude des lois de la vie humaine." —— M. R. Moniez, "Les parasites de l'homme." (3*fr.* 50.) —— A. Kelsch and P. L. Kiener, "Traité des maladies des pays chauds, région rétropicale." (24*fr.*) —— A. J. C. Barthélemy, "L'examen de la vision." (3*fr.* 50.) —— "Guide Rosenwald." (3*fr.*) —— Imbert, "Les anomalies de la vision." (3*fr.* 50.) —— J. C. Félix Guyon and, F. P. Guiard, "Leçons cliniques sur les affections chirurgicales de la vessie et de la prostate." (16*fr.*) —— E. Macé, "Traité pratique de bactériologie." (8*fr.*) —— Coste de Lagrave, "Hypnotisme. États intermédiaires entre le sommeil et la veille." (2*fr.*) —— Galezowski and Daguenet, "Diagnostic et traitement des affections oculaires." ii, 2, 3. —— G. Becavin, "L'école de Salerne et les médecins salernitains." (2*fr.* 50.) —— H. Bertoye, "Étude clinique sur la fièvre du goître exophthalmique et comparativement sur les fièvres spéciales à quelques autres névroses." (2*fr.* 50.) ——F. Trévoux, "Des tumeurs à tissus multiples." (3*fr.*) —— F. Balons, "Étude sur les phénomènes morbides liés à l'action exercée par les maladies infectieuses sur les centres nerveux." (2*fr.* 50.) —— E. Bories, "Aperçu médical sur la maison départmentale de Nauterre." (2*fr.*) —— N. Gallois, "Douze cents formules favorites des médecins français et étrangers." (3*fr.* 50.)

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Dominicus, Prague.—F. Torggler, "Bericht über die Thätigkeit der geburtshilflichgynäkologischen Klinik zu Innsbruck."

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# Reports on the Progress of Medicine.

## PHYSIOLOGY.

By LOUISE G. RABINOVITCH.

**The Influence of Carbon Oxide on Germination.**—G. Linassier ("Lyon méd.," No. 27, 1888) remarks that Claude Bernard's conclusions in his "Leçons sur les effets des substances toxiques et médicamenteuses" were that an atmosphere containing either carbon dioxide or carbon oxide in a proportion of one sixth per cent. interfered decidedly with germination. The author returned to Claude Bernard's experiments, and the following were the results: Seeds of garden cress, lettuce, and millet were introduced into bottles whose artificial atmosphere was composed of carbon oxide, nitrogen, and oxygen, so that the proportion of the latter gas equaled that of oxygen normally contained in the air, and the relative quantities of both former gases varied. The bottles were corked and inserted into a vat full of water. The author's conclusions are that germination was perfect under various temperatures, various degrees of light, and in an atmosphere which contained even 79 per cent. of carbon oxide, though, it is added, the germination was always slower in an atmosphere very rich in carbon oxide; but where the artificial atmosphere contained 50 per cent. of this gas, it was almost impossible to detect any difference between the young plants developed in the atmospheric or artificial air. The author concludes the article by saying that the carbon oxide exerts no influence upon germination, and the great physiologist's error was probably due to the admixture of carbonic-acid gas with the carbon oxide he used. The unfavorable influence of the former gas on germination was demonstrated at that time by Paul Bert, Déhérain, and Landrin.

**Domestication and Function.**—Dr. C. M. O'Leary ("Jour. of Compar. Med. and Surg.," No. 3, 1888) advances that the domestication of animals may be viewed as a remote and distinct step in the progress of natural selection. A comparison of the quagga of South Africa with the plodding donkey of civilized countries, the author alleges, reveals a close anatomical resemblance between them; and yet the former is fierce, fleet, and untamable, while the latter is patient, meek, and docile. It is plain, it is further said, that the difference of habit and disposition must be attributed to the effects of domestication alone; and though animals which man has made obedient to his will and surrounded by different environments do not, apparently, differ anatomically from their primitive types, yet there is to be found an organic modification of molecular nature of the nerve-cells, for, the author argues, habits and dispositions must be referred to the nervous system; and the different nervous centers which control the functions with which they are connected imply either a cessation of functional activity in the nerve-cells when lapsing instincts are the results, or a changed functional activity where the instincts have undergone a profound alteration. This implies the cessation of previous currents that existed between the optic thalamus and the psycho-motor zones of the cerebral cortex, or the establishment of new currents between these same points; these changes the author calls sympathetic, for they are the result of a law in accordance with which all organisms adapt themselves to an atmosphere of new conditions. In time the molecular changes of the nerve-cells are supplemented by structural changes appreciable by the microscope, and the latter changes are followed by permanently altered functions. The author concludes, finally, that the law of evolution works out its results in the animal kingdom after the following formula: 1. Changed habit and disposition. 2. Change of function. 3. Structural change in nerve-cells. 4. Permanent change in bodily organs. 5. Transition of type.

**The Influence of Excitations of the Brain on the Principal Organic Functions.**—M. François-Franck ("Gaz. hebdom. de méd. et de chirur.," Nos. 32, 33, 1888) states that according to Damlewsky and Ch. Richet excitation of the brain produces a lowering of the respiration or stops it altogether; according to Lépine and Bochefontaine, it is an irregularity and an acceleration of the respiratory movements that is observed. Some authors deny the localization of cortical respiratory centers; others—Christiani, Newell Martin, and Booker—maintain the existence of inspiratory and expiratory centers. The author studied experimentally not only the modification of the respiratory rhythm following simple cortical excitations, but the different details which accompany the respiratory phenomena, and also the respiratory changes following upon artificially provoked epileptoid attacks. The results may be formulated as follows: (A) 1. The excitation of the motor zones provokes a simple, not epileptoid, modification of the respiratory function. 2. Other parts of the cerebral cortex, on being stimulated, do not act like this, unless there is a diffusion of the excitation toward the motor zones. 3. The respiratory effects consist in a change of their frequency; there is no relation between the regions of the motor zones excited and the acceleration or diminution of the respiratory movements; the diminution of the movements seems to be in relation with the degree of intensity of the excitation. 4. The respiratory effects consist also in a change of the amplitude of the movements; the former may vary with the frequency of the respiratory movements. 5. The thoracic walls assume the inspiratory position, dilate; the respiratory amplitude is then at its maximum, and the average pleural aspiration is exaggerated. It happens also that the expiratory attitude is assumed by the thoracic walls; then the amplitude of movements decreases, and the average pleural aspiration diminishes. 6. The elastic bronchi contract energetically, and the lungs resist to insufflation more than they do in curarized animals. 7. The glottis enlarges when there is a tendency to inspiration, and contracts in the opposite conditions. It was impossible to induce spasm of the glottis artificially during the inspiratory period. 8. It follows that there is no cortical center in connection with the glottis, which was considered to exist by Krause, Lannois, and Delavan. 9. The cortical motor zones have no special centers for the thoraco-abdominal respiration. (B) 1. In partial artificially provoked epileptoid attacks the respiration is never suspended, even during the tonic phase of the localized attack, but becomes more frequent and is of augmented amplitude; the thorax assumes an expiratory position. 2. The respiratory embarrassment during the tonic phase of a generalized fit is expressed by the participation of the thoraco-abdominal walls in the general contractions, by the immobility and rigidity of the walls, as well as by the closure of the glottis; with the addition of general muscular contractions, asphyxia is necessarily induced, which causes retardation of the heart and vascular spasms. It happens that the respiratory apparatus shows some spasmodic contractions at the time of absolute tetanus of the rest of the parts of the body. 3. During a clonic attack the irregular respiration is moderately maintained, which suffices for the non-occurrence of asphyxia; the respiration is suspended, however, when the thoraco-abdominal muscles make exception to the general convulsive shocks, and enter upon a state of tetanus. 4. During a general tonico-clonic attack the larynx presents the following conditions: *a.* The lips of the glottis separate and approach alternately with the same rapidity that the movements of the inspiratory and expiratory muscles present. Never is the glottic occlusion complete, and a sufficient current of the tracheal air through the glottis persists. *b.* During a general tonic attack the occlusion of the glottis is complete, the tracheal current is abolished, and the laryngeal muscles contract in a manner similar to the contractions of the rest of the respiratory muscles. *c.* In the clonic phase the glottidean lips relax and approach under the influence of the nervous discharge, which acts alternately on the lateral and posterior crico-arytænoids; these alternate movements are of the same rapidity as the shocks of the affected thoracic muscles; a comparative graphic examination shows a synchronism of the laryngeal and respiratory muscular shocks. The author has followed out the influence of simple and epileptoid cerebral excitation on the circulatory apparatus, and states that experimenters have usually used curarized animals to avoid voluntary movements, and this has misled them into giving false statements as regards the different vital phenomena which occurred in each individual case; for a curarized animal is in a state of internal or marked epilepsy, and simple and epileptoid fits provoked by cortical excitations are characterized by different vital manifestations. The author's conclusions may be formulated as follows: (A) 1. The circulatory modifications which accompany complete epileptoid convulsions, tonico-clonic, produced by cortical excitations, are expressed by slowing of the heart during the general tonic phase, and acceleration during the clonic convulsions. The vascular tension should be increased during the general tetanus and vascular spasm, but the slowing of the heart dominates over the tension by slowing it, while in the clonic period the tension is considerably increased. 2. The circulatory and vascular trouble in an incomplete clonic attack presents the same features as in the clonic stage. 3. In abnormal attacks, where a tonic attack occurs between two clonic, each phase presents the features enunciated above as characteristic of each individual attack. 4. A current of considerable intensity applied to a curarized animal brings the latter into a stage of a marked epileptic attack, or internal epilepsy; and the circulatory troubles correspond to the rules given above. The author was guided in identifying the statements by the pupillary dilatations, by curarizing an animal so as to avoid the poisoning of one of its limbs, and by this means he was enabled to follow out the manifestations. (B) 1. As regards the vascular and cardiac effects in provoked epilepsy, the vascular spasm is a rule for all forms and phases of attacks; there is an independence between the cardiac and vascular phenomena, an augmented vascular pressure occurring during a tonic fit, etc.; the dependence of the vascular and cardiac phenomena referred to above is true only of the terminal periods of attacks. 2. As regards the vaso-motor effects of simple, non-epileptic origin, the vaso-constrictor phenomena only were observed; the vaso-dilator occurred in insufficient manner to deduce conclusions. The vascular constriction is at its maximum when the marginal convolution is stimulated. The vascular reaction produced by the stimulation of any region in the cortex is a general one; it is no more marked even in the parts which depend functionally upon the cerebral region excited than in other parts. The true vaso-motor centers are situated in the medulla, and they only receive cerebral as well as peripheral incitations. 3. The experiments of the cardiac effects of simple, not epileptic, nature consequent upon cortical excitation, lead the author to deny the existence of cortical centers regulating the heart, for, regardless of the area excited, there occurs either acceleration or depression of the heart in a regular manner, but which can not be predicted; the excitable cerebral surface behaves as a sensory surface toward the cardiac reactions as well as to other organic reactions. (C) 1. Bilateral pupillary dilatation, which may be partial sometimes, insensibility of the iris to light, projection forward and fixation of the ocular globes, divergence of the eyelids, congestion of the fundus of the eyes and conjunctiva, is the rule for epileptoid attacks of cortical origin, however insignificant the attack may be. In localized attacks, even those affecting the face, the pupillary dilatation is absent, or at least not much marked. The pupillary symptoms are independent of the form of the attacks, the character of the heart work, and the existence or non-existence of vascular spasms. The pupils dilate in the beginning of the attack, soon reach their maximum dilatation, and become normal with the cessation of the attack. The pupillary effects are bilateral as a rule, but sometimes only the pupil opposite to the hemisphere excited is affected. 2. In the case of organic or internal epilepsy, produced by cerebral excitation of a curarized animal, the pupils give the same features as those referred to, corresponding to the manifestation of the internal, not visible, epileptoid attacks. 3. The simple non-epileptic pupillary modifications produced by cerebral stimulation are contractions. 4. There is no localized center for a special pupillary function.

**The Cerebro-sensitive Visual Center in the Dog.**—Alexandre N.

Vitzon ("La France méd.," No. 93, 1888) states that experimental researches to locate the cerebro-sensitive center of vision in animals do not agree with each other in the hands of different experimenters. Munk states that if Ferrier, Yeo, Luciani, and others say that the visual center exists in the angular gyrus, it is because of the contusions or inflammatory irritations induced upon the occipital lobes while operating upon the angular gyrus. In 1886 Goltz put forward the view that it was impossible to admit the existence of a visual center or center of hearing in the cerebral cortex, and sustained his opinion by exhibiting animals with cerebral lesions which, according to Munk, must have induced blindness, but which was not the case in these animals. Dr. Vitzon experimented on dogs, and the latter were kept during three months. The author took out the gray substance of the visual zone of Munk on one side. Immediately after the operation the animal was blind in the eye opposite to the lesion produced, but, it is added, the vision was not absolutely impaired after convalescence. The author produced further analogous lesions of both occipital lobes, and he concludes that in dogs the integrity of vision is in relation with the integrity of the occipital lobes; a destruction of both lobes brings about an immediate and permanent cessation of vision of both eyes. The center of visual perception in dogs must be located in the posterior halves of the first, second, and third parallel convolutions.

**Lavation of the Blood.**—M. Dastre and M. P. Loye ("Arch. de phys. norm. et pathol.," No. 6, 1888) have experimented on rabbits and dogs; the results here given are only those from the experiments on rabbits. The authors injected intravenously a 7-to-1,000 solution of sodium chloride at a temperature of 45° C., so as to have the injection at a temperature of about 39·5° C. after it passed through a series of tubes before it reached the general circulation. Their conclusions are: 1. A considerable quantity of the solution may be injected without provoking any apparent trouble, immediate or subsequent; in some cases the quantity injected reached two thirds of the animal's weight. 2. There is no toxic dose, but there is a toxic rapidity of injection; the quantity of solution injected must not be greater than 3 c. c. a minute, for each kilogramme of the animal's weight. 3. For the animal to survive the conditions of a moderate rapidity and an average quantity of injection must be strictly observed, and also the normal condition of the organs, and especially of the kidneys, is necessary. 4. The non-fulfillment of these conditions kills the animal, and at post-mortem a decided exudation is found in the serous cavities, with exophthalmia and sanguineous suffusions. 5. There is a moment when elimination of the injected fluid begins, and in the course of elimination there almost always is a perfect parallelism established between the quantity of fluid injected and of that excreted. 6. This points to the existence of a regulating mechanism of the quantity of water in the organism. This mechanism comes into play as soon as the quantity of water injected equals the quantity of the animal's blood before the experiment. The surplus is quickly ejected. 7. The quantity of fluid which equals that of the animal's blood before the experiment is distributed so that 25 per cent. remains in the circulatory apparatus during the course of the experiment, and is eliminated at the close of the experiment; a second part, 75 per cent., is located in the serous and other tissues, and is eliminated as before. 8. The facts show the existence of a physiological connection between the circulatory and serous systems, which regulates the aqueous equilibrium of the blood and tissues. 9. The analysis enables one to conclude that, when animals gain their normal condition after the operation, the injection of the physiological solution produces only a lavation of the blood and tissues, without altering their composition in any respect.

**On the Rhythm and Physiology of the Cardiac Muscle, and on the Anatomy and Physiology of the Sympathetic Nervous System.**—Dr. W. H. Gaskell (*ibid.*, No. 1, 1888) divides his researches into three parts, the conclusions of which may be represented as follows, under the appropriate headings: A. The rhythm of the heart, and the succession of contractions in its different compartments: 1. The rhythm of the heart is due to a rhythmic power of the cardiac muscle itself, and not to peripheral nervous centers. 2. The rhythmic power of any portion of the heart is in relation not with the presence of ganglionic cells, but with the persistence of a primitive stage of the cardio-muscular tube. 3. The succession of contractions is due to a peristaltic wave of contraction which originates in a part where the velocity of the wave of the rhythmic movement is at its maximum, and is diminished by the gradual passage of the contraction wave from one part of the heart to another, because of the nature and the anatomical disposition of the muscular tissues, and of the junction of these parts. B. On the action of the cardiac nerves: 1. The cardiac muscular tissue is innervated by two sets of nerves, which are opposite in character; one is of a destructive nature, chemico-nutritive, or metabolic; the other does the restorative work. 2. The inhibitory nerves may be called anabolic, for they depress function, which is followed by repair. 3. The motor nerves may be called catabolic, for they augment function, which is followed by exhaustion. Having explained the reasons for these statements, the author remarks that stimulation of an inhibitory nerve produces, in the tissues where the inhibition is manifested, an electric change opposite to that which follows the stimulation of a motor nerve. He has also made an anatomical and histological examination of the cardiac nerves, and found that the anabolic nerves enter the cardiac muscle as fine medullated fibers, while the catabolic nerves are absolutely deprived of medullary substance. C. On the nature of the sympathetic system: 1. All visceral muscles and vessels receive two nerves—one inhibitory, or anabolic, another motor, or catabolic. These nerves differ from each other in their anatomical, histological, and physiological characters. 2. All these nerves, on parting from the central nervous system, are characterized by their fine medullated nerve-fibers. 3. These fibers lose their medullary sheaths and become non-medullated in the different groups of ganglia, where their number increases. 4. The ganglia of the sympathetic system are endowed with the function of maintaining the life of the peripheral nerves, which are connected with nerve-cells of these ganglia. 5. The communicating white rami form the only connections between the cerebro-spinal and the great sympathetic systems. 6. These communicating rami are composed mostly of fine medullated fibers, and part from the cerebro-spinal system in three distinct groups: *a*, cervico-cranial; *b*, thoracic; *c*, sacral. 7. The limits of issue of these rami correspond to the limits of the nerve-cells of Clarke's column. 8. The fine medullated fibers of the visceral nerves are in intimate relation with the motor nerves, which originate in the cells of the lateral horn, or with the system of the respiratory nerves of Bell, and form with the latter a lateral or splanchnic root, so that the cranial and spinal nerves may be considered as being formed by three roots—anterior, lateral, and posterior. 9. The lateral root consists of a ganglionated and a non-ganglionated portion; the ganglia of the ganglionated portion are those of the great sympathetic system. 10. The cranial and spinal nerves are composed of two separated nervous systems, having different origins in the cerebro-spinal axis: *a*, a somatic nervous system, which constitutes the nerves of animal life; *b*, a splanchnic nervous system, constituting the nerves of organic life.

**Respiratory Rhythm; Crossed Cephalic Circulation; Artificial Cephalic Circulation.**—A. Bienfait and A. Hogge ("Bull. de l'acad. roy. de méd. de Belgique," No. 6, 1888) state that Rosenthal and Pflüger's theories that the respiratory movements are regulated by the composition of the blood circulating in the head were accepted in the beginning, but found in time a number of objections to some of their views on the part of Hoppe-Seyler, Mosso, Marckwald, and others. Hoppe-Seyler said that the respiratory movements were not due to the local action of the blood on the respiratory centers, but were in direct correlation with the excitation of the sensitive nerves, for the first respiratory movement of the new-born is due to the action of cold on the cutaneous nerves; and a person in syncope is animated by a sudden spray of cold water. Mosso admits a chemical and a mechanical phenomenon of respiration, the latter playing the most important rôle. Marckwald finally denies directly the influence of the carbon dioxide and oxygen in the blood on the respiratory centers; his arguments are that the respiration persists after the circulation ceases, and also after the body has been exsanguinated. The authors investigated the question by establishing a crossed cephalic circulation in two rabbits, after Léon Fredericq's method, described in the "Bull. de l'acad. sc. de Belg.," 3me sér., t. xiii. In two animals, A and B, the vertebral arteries and one of the carotids, the left, were ligated; the right carotids were cut across, and the central cardiac end of the right carotid of A was made to communicate, by means of a glass tube, with the peripheral or cephalic end of the right carotid of B. A second tube established identically the same communication between the central end of the carotid of B and the peripheral of A. A crossed cephalic circulation was thus realized, the head of A receiving its blood-supply from B, and *vice versa.* If dyspnœa was produced in A by obliterating its trachea completely or partially, it was B that presented dyspnœic symptoms, whereas A presented no symptoms in the beginning, and afterward had a tendency to apnœa rather. The authors present the tracings which illustrate the facts; and they conclude that the explanation of the phenomena is that the blood of A became venous by the interference with its respiration, and this blood was sent to the head of B, excited the respiratory centers of the latter, and caused dyspnœa. They further arranged an artificial cephalic circulation in such a manner as to be able to change the blood-current so as to show the influence of either oxygenated blood or that saturated with carbon dioxide. Their general conclusions are that the respiratory centers are sensible to the variation of carbon dioxide in the blood. They did not observe any constant results by varying the amount of oxygen in the blood sent to bathe the respiratory tissues.

**On the Rhythm of the Mammalian Heart** (Presented by Dr. M. Foster).—The following are some of the results from the experiments on the cat, dog, rabbit, rat, hedgehog, and guinea-pig, performed by Dr. J. A. McWilliam ("Proc. of the Royal Soc.," No. 268, 1888): 1. Stimulation of the quiescent cardiac muscle, if it is strong enough to excite contraction at all, excites a maximal contraction. The strength of an artificially excited beat does not depend upon the strength of the stimulus; it is equally strong with maximal and minimal excitations. 2. The condition of fibrillar contraction, or heart-delirium, induced in the ventricles of excitable hearts by the application of interrupted currents and other means, may be recovered from, even after a long period, under the combined influence of artificial respiration, rhythmical compression of the ventricles, and the administration of pilocarpine. 3. The spontaneous rhythmic power possessed by the terminal parts of the great veins—the auricles and ventricles—seems to be myogenic under some conditions. 4. The auricles and ventricles, having an independent rhythm of contraction, are in obedience to impulses reaching them from the terminal or ostial parts of the great veins; the latter have a higher power of spontaneous rhythm, and dominate the rhythm of the whole heart. 5. The normal sequence of the ventricular contraction upon the auricular contraction in the intact heart is essentially determined by nervous influence. 6. The nervous influence determining the ventricular sequence is probably of an intermittent character. 7. The propagation of the contraction wave within the walls of the auricles and ventricles is not dependent on the action of the nerves lying near the surface of these parts. 8. In the auricles the ordinary beat is not the result of a simultaneous motor discharge from a nerve-center to all muscular fibers, but a progressive process passing over the auricular walls in a wave-like fashion. 9. A reversal of the normal sequence of the heart's contraction can be induced by applying to the ventricles a series of induction shocks at a rate more rapid than that of the spontaneous rhythm of the organ.

## Miscellany.

**The Seventh Decennial Convention for Revising the Pharmacopœia of the United States of America.**—The president of the convention of 1880, Dr. Robert Amory, has issued the following circular:

Notice is hereby given that, in accordance with and by virtue of the authority vested in me by the convention of 1880, I hereby call upon the several incorporated medical societies, incorporated medical colleges, incorporated colleges of pharmacy, and incorporated pharmaceutical societies throughout the United States of America, the American Medical Association, and the American Pharmaceutical Association, to elect a number of delegates, not exceeding *three*, and upon the Surgeon-General of the army, Surgeon-General of the navy, and the Surgeon-General of the Marine-Hospital Service to appoint, each, not exceeding *three* medical officers to attend a general convention for the revision and publication of the Pharmacopœia of the United States of America, to assemble in the city of Washington, D. C., on the first Wednesday of May, 1890 (May 7th), at twelve o'clock noon. The several bodies, as well as the medical departments of the army, navy, and Marine-Hospital Service, are hereby requested to submit the Pharmacopœia to a careful revision, and to transmit the result of their labors to the committee of revision at least three months before the meeting of the general convention. The several medical and pharmaceutical bodies are hereby requested to transmit to me, as the president of the convention of 1880, the names and residences of their respective delegates as soon as they shall have been appointed; a list of these delegates shall thereupon be published under my authority, for the information of the medical public, in the newspapers and medical journals in the month of March, 1890. In the event of the death, resignation, or inability of the president of the convention of 1880 to act, these duties (in accordance with the resolution of that convention) shall devolve, successively, in the following order of precedence: Upon the vice-presidents, the secretary, the assistant secretary, and the chairman of the Committee of Revision and Publication of the Pharmacopœia. These officers are as follows: First vice-president, Samuel C. Busey, M. D., of Washington, D. C.; second vice-president, P. W. Bedford, Ph. G., of New York; secretary, Frederick A. Castle, M. D., of New York; assistant secretary, C. H. A. Kleinschmidt, M. D., of Washington, D. C.; chairman of committee of revision, Charles Rice, Ph. D., of New York; first vice-chairman of the committee of revision, Joseph P. Remington, Ph. M., of Philadelphia, Pa.; second vice-chairman of the committee of revision, C. Lewis Diehl, Ph. G., of Louisville, Ky. At the General Convention held in Washington, D. C., on the fifth day of May, 1880, the organizations and bodies enumerated in the "Abstract of the Proceedings of the National Convention of 1880," on pp. xv to xviii of the "U. S. Pharmacopœia of 1882"—a list of which will be found appended to this call—were recognized as being entitled to representation. If any body other than those admitted in 1880 shall desire a representation in the convention of 1890, it is suggested that the proof of incorporation, signed by the Secretary of State of the State which shall have issued the charter, or by properly qualified public officials of the United States, be presented with the credentials of the delegation. A blank form of certificate of appointment of delegates will be sent upon application by letter to my address, care of Dr. Edwin H. Brigham, Assistant Librarian of the Boston Medical Library, 19 Boylston Place, Boston, Mass.

*List of Incorporated Bodies and of Government Departments represented in the Pharmacopœial Convention of 1880.*—Connecticut Medical Society; Iowa State Medical Society; Massachusetts Medical Society; Medical Society of the State of New York; Medical Society of the State of North Carolina; College of Physicians and Surgeons in the City of New York; College of Physicians, Philadelphia; Medical and Chirurgical Faculty of Maryland; Medical Society of the District of Columbia; New York Academy of Medicine; Philadelphia County Medical Society; Albany Medical College, Med. Dept. of Union University, Albany, N. Y.; Bellevue Hospital Medical College, New York; College of Medicine, Syracuse University, Syracuse, N. Y.; College of Physicians and Surgeons, Med. Dept. of Columbia College, New York; Dartmouth Medical College, Hanover, N. H.; Department of Medicine and Surgery of the University of Michigan, Ann Arbor; Jefferson Medical College, Philadelphia, Pa.; Medical College of Indiana, Med. Dept. of Butler University, Irvington, Ind.; Medical Department of Howard University, Washington, D. C. Medical Department of Iowa State University, Iowa City; Medical Department of the University of Georgetown, Washington, D. C.; Medical Department of the University of Maryland, Baltimore; Medical Department of the University of Pennsylvania, Philadelphia, Pa.; Medical Department of the University of Virginia, Charlotteville, Va.; Miami Medical College, Cincinnati, O.; Missouri Medical College, St. Louis; National Medical College, Med. Dept. of Columbian University, Washington, D. C.; Rush Medical College, Chicago, Ill.; University of the City of New York, Med. Dept., New York; Woman's Medical College of the New York Infirmary, New York; Women's Medical College of Pennsylvania, Philadelphia, Pa.; Chicago College of Pharmacy, Chicago, Ill.; Cincinnati College of Pharmacy, Cincinnati, Ohio; College of Pharmacy of the City of New York, N. Y.; Louisville

College of Pharmacy, Louisville, Ky.; Maryland College of Pharmacy, Baltimore, Md.; Massachusetts College of Pharmacy, Boston, Mass.; National College of Pharmacy, Washington, D. C.; Pennsylvania College of Pharmacy, Philadelphia, Pa.; Philadelphia College of Pharmacy, Philadelphia, Pa.; St. Louis College of Pharmacy, St. Louis, Mo.; University of Michigan, School of Pharmacy, Ann Arbor, Mich.; Medical Department of the Army; Medical Department of the Navy; Marine-Hospital Service.

**The Health of the State of New York.**—According to the State Board of Health's "Monthly Bulletin" for February, the whole number of deaths reported was 8,637, including 44 from cerebro-spinal fever, 84 from typhoid fever, 49 from malarial diseases, 10 from small-pox, 239 from scarlet fever, 55 from measles, 39 from erysipelas, 49 from whooping-cough, 667 from croup and diphtheria, 85 from diarrhœal diseases, and 105 from puerperal diseases.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending March 29th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y. | March 23. | 1,559,092 | 822 | .. | .. | .. | .. | .. | .. | 5 | 59 | 42 | 16 | 17 |
| Philadelphia, Pa. | March 23. | 1,040,245 | 412 | .. | .. | .. | .. | .. | .. | 14 | 11 | 5 | .. | 2 |
| Chicago, Ill. | March 23. | 830,000 | 279 | .. | .. | .. | .. | .. | .. | 9 | 2 | 26 | 5 | 1 |
| Brooklyn, N. Y. | March 23. | 814,505 | 352 | .. | .. | .. | .. | .. | .. | 3 | 9 | 21 | 10 | 14 |
| Baltimore, Md. | March 16. | 500,343 | 175 | .. | .. | .. | .. | .. | .. | 1 | 2 | 4 | .. | .... |
| Baltimore, Md. | March 23. | 500,343 | 160 | .. | .. | .. | .. | . | .. | 4 | 3 | 2 | 1 | 2 |
| San Francisco, Cal. | March 15. | 330,000 | 121 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Cincinnati, Ohio. | March 23. | 255,139 | 103 | .. | .. | .. | .. | .. | .. | 2 | 1 | 3 | .. | 2 |
| New Orleans, La. | March 16. | 254,000 | 119 | .. | .. | .. | .. | .. | .. | 3 | .. | .. | .. | 1 |
| Pittsburgh, Pa. | March 23. | 230,000 | 83 | .. | .. | .. | .. | .. | .. | 3 | .. | 2 | 3 | 3 |
| Washington, D. C. | March 23. | 225,000 | 110 | .. | .. | .. | .. | 1 | .. | 1 | 1 | .. | .. | 2 |
| Milwaukee, Wis. | March 23. | 210,000 | 52 | .. | .. | .. | .. | .. | .. | .. | 5 | 1 | 1 | 1 |
| Newark, N. J. | March 19. | 180,145 | 107 | .. | .. | .. | .. | .. | .. | 2 | 1 | 1 | .. | 2 |
| Minneapolis, Minn. | March 23. | 180,000 | 52 | .. | .. | .. | .. | .. | .. | 1 | 1 | 4 | .. | .... |
| Kansas City, Mo. | March 23. | 180,000 | 30 | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | 1 |
| St. Paul, Minn. | March 16. | 180,000 | 31 | .. | .. | .. | .. | .. | .. | 1 | 3 | 4 | .. | .... |
| St. Paul, Minn. | March 23. | 180,000 | 41 | . | .. | .. | .. | .. | .. | 1 | 1 | 5 | .. | .... |
| Providence, R. I. | March 23. | 127,000 | 49 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | 3 |
| Rochester, N. Y. | March 23. | 120,000 | 55 | .. | .. | .. | .. | .. | .. | . | . | 2 | .. | 2 |
| Denver, Col. | March 22. | 100,000 | 29 | .. | .. | 1 | .. | .. | .. | .. | 1 | .. | .. | ... |
| Nashville, Tenn. | March 23. | 65,153 | 20 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Fall River, Mass. | March 23. | 65,000 | 30 | .. | .. | .. | .. | .. | .. | .. | 1 | . | 1 | .... |
| Toledo, Ohio | March 22. | 51,000 | 27 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Lynn, Mass. | March 23. | 50,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Manchester, N. H. | March 16. | 42,000 | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me | March 23. | 42,048 | 8 | .. | .. | .. | .. | .. | .. | .. | . | .. | .. | .... |
| Galveston, Texas. | March 8. | 40,000 | 20 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Galveston, Texas. | March 15. | 40,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Council Bluffs, Ia. | March 16. | 35,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| E. Saginaw, Mich. | March 23. | 33,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa. | March 16. | 30,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Auburn, N. Y. | March 23. | 26,000 | 6 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Haverhill, Mass. | March 23. | 25,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Newport, R. I. | March 21. | 22,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | ... |
| Newton, Mass. | March 16. | 21,553 | 3 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Newton, Mass. | March 23. | 21,553 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Pensacola, Fla. | March 16. | 15,000 | 4 | .. | .. | .. | .. | . | .. | .. | .. | .. | .. | .... |

**The New York Academy of Medicine.**—At the next meeting of the Section in Surgery, on Monday evening, the 8th inst., Dr. Parker Syms will report "Cases of Femoral Aneurysm cured by Ligation and Excision," and show patients; and a specimen of simple fracture of the carpal scaphoid bone will be presented.

At the next meeting of the Section in Pædiatrics, on Thursday evening, the 11th inst., Dr. A. Jacobi will reply to Dr. O'Dwyer's question, "By what Force is a Collapsed Lung inflated while freely exposed to Atmospheric Pressure through an Opening in the Pleural Cavity?"; Dr. J. H. Holgate will read a paper entitled "Nævus: Treatment by a New Method, with Cases"; Dr. M. Putnam Jacobi will read a paper on "Cirrhosis of the Liver"; and Dr. W. E. Forest will read a paper on "Retropharyngeal Abscess."

At the next meeting of the Section in Neurology, on Friday evening, the 12th inst., there will be a discussion on "Nervous Symptoms arising from Ovarian Disease, and their Treatment," to be opened by Dr. C. L. Dana and Dr. W. Gill Wylie, and continued by Dr. W. M. Polk, Dr. John Byrne, Dr. P. F. Mundé, Dr. J. B. Hunter, Dr. H. T. Hanks, Dr. A. J. C. Skene, Dr. C. C. Lee, Dr. B. McE. Emmet, Dr. A. H. Buckmaster, Dr. E. C. Spitzka, Dr. W. R. Birdsall, Dr. G. M. Hammond, Dr. B. Sachs, and Dr. M. A. Starr.

At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, the 15th inst., Dr. D. C. Cocks will report a case of "Sarcomatous Tumor of the Orbit" and a case of "Melanotic Tumor of the Orbit," and Dr. J. O. Tansley will report "Two Corneal Transplantations."

**Eseridine: a New Alkaloid.**—Besides physostigmine, or eserine, and the less known calabarine, there is, it is stated, yet another base in Calabar bean, for which the name "eseridine" is proposed. This is a white, crystalline powder which, however, can be got in large, transparent crystals; the fusing point is 132° C. (270·6° F.), and it is only slightly soluble in ether. According to Dr. Eber, eseridine is far less actively poisonous than eserine, but (in this respect resembling calabarine rather closely) it exercises a tetanic action upon the spinal cord, and acts powerfully upon the intestinal system, inducing very abundant mucous discharges. The formula of the new base is given as $C_{15}H_{23}N_3O_3$, and it therefore differs from eserine by the elements of an additional molecule of water only. This is given up when the base is heated with a mineral acid, and physostigmine is the result of the reaction.—*Lancet.*

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**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Lectures and Addresses.

# ON PHAGOCYTES.

### AN ADDRESS DELIVERED BEFORE THE SOCIETY OF THE ALUMNI OF BELLEVUE HOSPITAL,

*April 3, 1889.*

BY WILLIAM OSLER, M. D.,
PHILADELPHIA,
PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA.

THERE are in the body groups of tissues possessing cells, which either normally display amœboid changes, or are capable, under certain conditions, of assuming them. By amœboid properties we mean not only the capability of free movement, but the possession of a power which enables a cell to take foreign particles into its interior. Tissues containing such cells are derived from the mesoderm, the type of which, phylogenetically, is a free wandering cell (Minot). In the development of this layer, epithelial and non-epithelial portions may be distinguished. For the former Minot has suggested the term mesothelium, and the latter His calls mesenchym. The distinction between the two is, however, largely artificial, as the epithelium may be, and in places is, in development changed into connective tissue. And, thirdly, there are in the mesoderm, at all stages of its development, certain cells which are free and independent—mesamœboids (Minot), and which persist subsequently as leucocytes.

These mesodermic cells in the adult body, which are capable either of free amœboid movements or of taking into their protoplasm solid particles of various sorts, are met with:

(1) As the colorless corpuscles of blood and mucus.

(2) The connective-tissue cells, free and fixed, within the connective tissue proper, or forming the supporting framework of the solid organs.

(3) Cells of the spleen, bone, marrow, and lymph glands.

(4) The vascular and lymphatic endothelium.

(5) The alveolar epithelium of the lungs.

All of these cells possess, in a greater or less degree, the power of taking solid particles into their interior, virtually, as we say, of eating them.

On account of the possession of this property, Metschnikoff has suggested for these groups of cells the term *phagocytes*, as expressive of their most distinctive feature, and for the process in general the term phagocytosis.

He regards this function as a property handed down from the primitive unicellular organism, and traces in an interesting manner the evolution of cells possessing it throughout the animal kingdom; attempting to show a genetic relation, physiologically at least, between the free living rhizopods and the cells of the middle germinal layer of the higher animals. Not a little of the attractiveness of Metschnikoff's views is derived from the glamour of evolution thrown over them, by thus attributing the retention in certain cells of an atavic property in the highest degree useful to the organism.

I shall consider first the action of these phagocytes as normal physiological factors in the work of the body; and, secondly, take up the theory that these bodies play an essential *rôle* in the protection of the organism from the invasion of specific germs.

And, first, two illustrations from comparative physiology to indicate the important part assigned to phagocytes in certain transformations which animals undergo. In the development of the frog, the removal of the tail of the tadpole, and of the gills, by gradual atrophy, is effected, according to Metschnikoff, by the activity of the amœboid cells. At a time when the hind legs begin to bud, the leucocytes migrate into the tail, and by their phagocytic action remove the tissue, fragments of which, as muscle, bits of nerve fibers, etc., may be seen in the interior of their protoplasm. The gills are absorbed by an identical process. In the transformation of the larva into the fly, Kowalewsky * has shown that the large masses of muscle tissues, so abundant in the larva, and other parts unnecessary in the matured condition, are removed by the activity of the phagocytes.

It has long been known that foreign bodies, such as ligatures, portions of dead bone, and other substances, may be completely removed by leucocytes. Interesting as is this, and bearing directly upon the question, I propose to limit myself entirely to the consideration of the two aspects above referred to.

Nowhere in the body do we have such a facility for studying the action of phagocytes as in the organs of respiration, in which, with the cilia of the bronchial mucosa, they share in the work of cleansing the air passages; and of these two important agencies it is hard to say which plays the more important part in the expulsion of those particles of foreign matter which, in cities at least, we constantly inhale. There are several groups of cells engaged in this work: the ordinary mucous corpuscles, the alveolar epithelium, the connective-tissue elements of the pulmonary stroma, and the leucocytes of the lymph tissue in the bronchial, tracheal, and mediastinal glands.

The mucus corpuscles, which in health are derived largely from the muciparous glands, and in inflammatory states from the general bronchial mucosa, are actively concerned in attacking the dust which reaches, in ordinary inspiration, as far at least as the medium-sized tubes.

The examination of the morning sputa of a cigarette smoker, or of a person who has been exposed to a dusty atmosphere, shows very clearly that no small proportion of the carbon grains is included within protoplasm. The free granules are abundant, but almost every leucocyte has its little load which it has picked up on its road from the finer tubes to the trachea. I have always thought this represented a neat bit of economy of labor, as there can be no question that it is easier for the cilia to sweep half a dozen angular particles, when inclosed in a cell, than to work at the same when free. In all probability, the finer particles which fall upon the tracheal or the bronchial membranes are got rid of almost entirely by cells and cilia. There does not appear to be, to any great extent, penetration of pigment granules between the ciliated epithelium. It is unusual to see beneath the tracheal mucosa any collection of carbon grains. We do meet with it in the submucous bronchial tissue, but the active vibratile lining seems to afford a tolerably sure protection. The lymph vessels open on the surface in the pseudo-stomata, and in the experimental work of Arnold* and others leucocytes carrying black grains have been seen in the submucous lymph vessels; yet the process does not seem to go on to any great degree.

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* "Zeitschrift für wissenschaftliche Zoologie," Bd. xlv.

The particles which reach the air cells find no active current to sweep them from the spots on which they fall. It is possible to conceive, under certain conditions, of the air cells gradually filling, were it not for the activity of phagocytes, derived largely from the alveolar epithelium, which stands, as it were, at the gateway of the lymphatic circulation.

The cells lining the air cells, seen, for instance, by scraping gently the cut surface of an œdematous lung, look as flattened, desiccated, and lifeless as do the scales of the scarf-skin. But appearances are deceptive in this case, and the protoplasm of these cells is not only active but probably varies much in shape with the distension or contraction of the alveoli. When in contact with liquids and in pathological conditions, they change so much in form that I find it often a difficult lesson to teach students, familiar with normal histology only, to recognize in the large, swollen ovoid cells so common in sputa, alveolar epithelium. Moreover, from the rapid way in which they may be desquamated, there must be ample provision for their rapid restitution. How far in a normal state these cells take part in the work of cleansing the lungs is not yet definitely settled. In the young they do not often appear in the sputa, except when there are indications of catarrhal changes, but in the adult their presence is very common. It is rare to see one in the sputa of a hospital patient, which has not brought with it a load of carbon, all of which may not have been derived from the air cells, as these bodies can undergo amœboid changes, and, like the leucocytes, are probably not above picking up a grain or two in their course toward the larynx. In cases of bronchial catarrh, and in phthisis, these pigmented cells of the alveoli may be very abundant, producing the blackish streaks which may be seen with the naked eye. When these cells have undergone the myelin degeneration they seem no longer capable of performing scavenger work.

In coal miners, or even in stokers and coal heavers, these pigment-laden cells may be extraordinarily abundant. It is not only when the patient comes direct from the mines, or from the coal yards, but the old *poitrinaires* which haunt in such numbers our city hospitals, expectorate for months, or even longer, sputa containing the pigment-laden alveolar cells, staining the entire expectoration. So persistent may this be that the process may be regarded, not simply as an extrusion of the daily dole of carbon, but as a definite excretion, if we may so use the term, of particles which have been stored up in pulmonary parenchyma.

A certain proportion of the inhaled dust particles escapes the mucous cells and the alveolar epithelium and penetrates the substance of the lung, entering at the *Kittsubstanz* between the cells, or through the pseudo-stomata existing in the alveolar wall. The particles of coal-dust have such sharp angles that we may suppose them capable of mechanically lacerating the delicate alveolar cells.

In dwellers in the country, as well as in wild animals, breathing an air comparatively pure, the cilia and the phagocytes in the air passages appear quite able to prevent access of the carbon grains to the lung tissue; whereas in the dwellers in the cities, and in animals kept in confinement, the impurities in the air are so abundant that these agents are insufficient, and sooner or later the grains penetrate the air cells, aided, no doubt, by the movements of inspiration and expiration; and we have the well-known marbled or carbonized organs which we see every day upon the post-mortem table.

When the particles reach the lymph spaces, the fixed and free connective-tissue cells of the stroma join actively in the work. On section, we see in the alveolar septa large numbers of round protoplasmic bodies, two or three times the size of colorless blood-corpuscles, which are usually packed full of dark grains. A certain proportion is seen within the ordinary connective-tissue corpuscles, and, in addition, there are, in variable numbers, ordinary leucocytes. But even these forces are insufficient to meet the constantly advancing stream of dust particles. The destiny of those which escape the phagocytes in the alveolar stroma has been accurately followed in the investigations of Arnold and others.* Entering the lymph stream, they are carried first into the lymph nodules, which, in the lungs, surround the bronchi and blood-vessels, and a large number become fixed in the cells of the follicular cords or are permanently imbedded in the stroma.

As they pass along the lymph channels into the interlobular septa beneath the pleura, a still further number lodge and become permanently inclosed in the stroma cells, and, finally, the remnant pass into the larger lymph channels and ultimately lodge in the bronchial and tracheal glands. Here the lymph and stroma cells of the follicular cords dispose of them permanently. That this is effected in great part by the phagocytes is, I think, unquestioned. A scraping from any moderately pigmented lymph gland shows that the chief part of its carbon load is warehoused (so to speak) in protoplasm; the granules lie for the most part imbedded free in a connective-tissue matrix. Here the struggle is practically over, and though not a victory, yet the compromise which has been made is the best which could possibly be effected. The sharp irritating particles have been placed in position in which they could do the least harm, and, though not expelled, have been safely imprisoned.

Once in the lymph glands of the bronchi, it is thought they never reach the general circulation, but it has been shown of late years that, under certain circumstances, the carbon particles may pass the bronchial filters and spread far and wide throughout the system. Soyka's remarkable case, in which undoubted coal particles were found in the tissue of the spleen and of the liver, illustrates what really may occur. Weigert,* in particular, has called attention to the frequency with which, in the spleen and in the liver, carbonization of the connective tissue occurs. He states that it results whenever densely pigmented bronchial glands form close adhesion to the pulmonary veins, through the walls of which the carbon particles pass and so reach the general circulation. I would not call the condition common, but I have seen at least three instances at the Philadelphia Hospital in which the irregularly distributed pigment in the spleen and in the liver (in the latter chiefly along the portal canals) was undoubtedly of extraneous, not of hæmic origin.

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* "Untersuchungen über Staubinhalation und Staubmetastase," Leipzig, 1885.

* See a recent work of Fleiner's, Virchow's "Archiv," Bd. cxii.

The steps in this process described may be followed in the lungs of any town dweller, but to see in perfection the remarkable activity of the pulmonary phagocytes, one must study the early stages of anthracosis, particularly in those exceptional cases which we see occasionally when a miner has been killed by accident or dies of acute disease. It is not, I think, too much to say that the larger part of the pigment contained in the lungs, almost if not quite black, is inclosed in protoplasmic cells. Here, too, the invading particles are more formidable and not so readily dealt with; yet one frequently finds long, irregular bits completely encircled by a film of protoplasm which the phagocyte has stretched to the utmost, just as we may see an amœba extend along the whole length of one of the short, rod-like diatoms.

I know of nothing which illustrates better the remarkable amœboid properties of human protoplasm than a slide prepared from the scraping of such a lung, or of the black juice pressed therefrom. Scarcely a leucocyte can be seen which has not been at work, and many of the larger cells have the protoplasm stuffed to the full with carbon grains. Only in the work of the pond amœbæ, preying among desmids, diatoms, and algæ, can we see such better illustrations of active work. There is, of course, this difference: that the amœba eats to live, and, so far as I know, never loads its protoplasm with useless stuff. The body phagocytes take anything, never exercising selective powers. The particles which gain entrance to the lungs may be far too large for a single phagocyte to attack successfully. I have sketches showing rod-like particles, the ends of which appear inclosed in protoplasm of a dumb-bell shape; while in one instance not only were the ends inclosed, but the central portion was completely enveloped by the third leucocyte.

A physiological process in which phagocytes play a leading *rôle* is the removal and disintegration of the red blood-corpuscles which have lived their life and are no longer fit for work. The cells containing the red blood-corpuscles, which are found in the bone marrow and in the spleen, however much opinion may differ as to their mode of origin, can not, I think, be regarded in any other light than as phagocytic elements with this definite function. They exist normally in the red marrow and in the spleen, and we may recognize (1) cells which appear to be, from their size and shape, elements of the pulp; (2) cells which belong to or are derived from the endothelium of the capillaries; and (3) the cells of the stroma. The gradual production of the pigment in this way has been so often described, and is so well known, that I need not now dwell upon it. In certain morbid conditions we see this process widely extended, and we find cells containing red blood-corpuscles in the liver, in the lymph glands, even in the blood itself; and particularly is this the case in those states associated with rapid blood deterioration and destruction, as in acute fevers, when these bodies may be enormously increased. In certain forms of anæmia so abundant are they in the bone marrow and in the spleen that they have been regarded as directly concerned in the widespread hæmo-phthisis.

The observations of Quincke* and his pupils have shown that the liver is the chief seat of blood destruction in pernicious anæmia, but the totally different appearance presented by this organ, even in long-standing cases, to that met with in malaria, shows a radical difference in the nature, possibly in the seat of the hæmolytic action. In the former case the pigment is chiefly in the liver cells; in the latter, in the stroma and about the blood-vessels. We can not from this regard pernicious anæmia as a hepatic disorder. The liver, probably, makes the best disposal it can of an abnormally large amount of coloring matter, which is, I should suppose, not brought to it in the same form as in malaria, but rather in a form similar to the raw material of the bile pigment, which would account for the active participation of the liver cells. The deep beefy-red color of the muscles in pernicious anæmia also tells of an abnormally large quantity of coloring matter at the disposal of the tissues.

In chronic emphysema, in mitral obstruction, and in all affections in which the circulation within the lungs is permanently embarrassed, the condition of brown induration which ensues affords a very beautiful illustration of the same process. The blood-corpuscles by diapedesis reach the stroma of the air cells, where they are seized upon, just as are coal particles, by the connective-tissue cells, and are gradually converted into a pigment which retains for a long time its brownish tint, but which may ultimately become black.

Neumann, in a recent paper,† doubts whether the brown induration of the lungs is really the result of the ingestion of the red blood-corpuscles by the stroma cells. He holds that in many instances, at least, structures within the corpuscles, which resemble so closely the red blood-discs, are in reality only pigment forms having the size and color of the red blood cells. We certainly see structures within the cells which can not possibly be mistaken for anything but red blood-corpuscles, and, I think, the expert eye can usually discriminate between such and the round aggregations of pigment, however deceptive may be their form and color.

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* "Fortschritte der Medicin," Bd. i.

* "Deutsches Archiv f. klin. Med.," Bdr. xxv, xxvii, xxxii, xxxiii.

† Virchow's "Archiv," Bd. cx.

Phagocytosis has been studied in the process associated with absorption of extravasated blood. Langhans was the first to show that blood effused into the tissue did not simply disintegrate and disappear, but that the connective-tissue elements were actively at work, and that no small proportion of the colored corpuscles was ultimately taken into the interior of their protoplasm. This has been amply confirmed, and I think there can be no question as to the fact, but observers are by no means unanimous, however, whether the phagocytes are essential in the process. Probably in large extravasations only the peripheral parts are dealt with in this way. The fixed connective-tissue cells with migrated leucocytes all share, I believe, in the process. It must not be forgotten, as Neumann has pointed out, that pigment granules in the interior of the cells may resemble blood-corpuscles very closely. However this may be, there can be no doubt that the cells are concerned in the transformation of the hæmoglobin, whether they take it up with the corpuscles or after it is diffused from them.

Remarkable differences exist in the final transformation of the hæmoglobin, resulting in the formation of two pigments—hæmatod, inwhich develops chiefly in the central parts of the extravasation, and an albuminate of iron, hæmosiderin (Neumann), which is formed at the boundaries of the clot and wherever the coloring matter comes in contact with the tissues. That this difference is related in some way to the influence of the cells is in the highest degree probable, though Neumann is not inclined, from his observations, to attribute an important action in this respect to either the fixed or wandering connective-tissue elements. The question is one to which a few years ago I gave some study in connection with development of cells containing red blood-corpuscles, and I was much impressed with the truth of Langhans's statement as to the frequency and numbers of these structures in the vicinity of extravasations of all kinds.

In the intestinal canal the leucocytes assist, to some extent at least, in the absorption of fat. Schaefer's observations upon this point* show very clearly that during digestion the amœboid cells of the mucous coat become filled with fat globules. How these are obtained we do not as yet know clearly. Whether the fat penetrates between the epithelial cells, or whether the leucocytes pass up between the cells, reaching to the surface and here securing the fat, has not been definitely determined; though from the presence of an occasional cell, or even a nest of cells between the cylinders, the latter view is probably the correct one. The leucocytes pass to the central lymph-vessels, where they disintegrate and discharge their load of fat granules, which has meanwhile, in the protoplasm of the cell, been broken up into finer particles, which form the so-called molecular base of the chyle. Possibly, too, the leucocytes may take up other ingredients. It is interesting to note that in many of the lower animals the amœboid cells of the endoderm possess an active digestive function. The observations of Parker and Lankester appear to confirm fully the researches of Metschnikoff on the phenomena of intercellular digestion in invertebrates.

So far, we have been dealing exclusively with the action of phagocytes under normal conditions. And it is clear that these mesodermic cells have important functions throughout the life history of the organism. Not only in the early steps in the development of the blastoderm do we see them actively at work, but in various stages of development, particularly in that of the bone, their action is of the first importance. In the mature body we have seen that in the lungs, in the intestines, and in the blood-making organs, the phagocytes have most essential functions, but the question of chief interest to-day relates not so much to this normal process about which there has been so much doubt as to the supposed part which these cells take in protecting the body against the invasion of parasites.

The theory elaborated by Metschnikoff had been hinted at by many previous observers, but to him is undoubtedly due the credit of bringing it into prominence, and of doing in connection with it a very large amount of interesting work. It must be allowed that he came to his task well prepared. Many of us can look back with pleasure to his brilliant investigations upon the intracellular digestion in the *Planariæ* and in sponges, carried on largely at the Naples Marine Station, investigations the truth of which, so far as I know, has not been controverted. Following these studies, directly in the same line, was his interesting research into the method of the absorption of the tail of the tadpole, already referred to, in which he appears to have demonstrated that the atrophy of this organ results in reality from the active removal of the fragments of the tissue by leucocytes.

So far the work was biological, and had no direct bearing upon the phenomena of disease further than that, in the latter illustration, it bore out the well-known fact of the absorption by leucocytes of foreign bodies placed within the tissues. In 1884, in the ninety-sixth volume of Virchow's "Archiv," he published a paper,* which arrested the immediate attention of students in parasitology. It is now too old a story to narrate at length; it will be sufficient to remark that in the daphnia, the common water-flea of the aquarium, he had studied the relation of the leucocytes to a fungus with which these insects are prone to be infected. The phagocytes attack the fungi which enter the body cavity from the intestines, and practically eat them, inclosing them in protoplasm. Where one cell is insufficient, several combine to inclose the spores in large plasmodia-like aggregations—giant cells. If the invasion was in such large numbers, and the activity of the fungus so great that conidia were formed, the resisting forces were insufficient; victory remained with the enemy, which meant the death of the daphnia. Of 100 insects studied, 73 became infected, of which 59 recovered and 14 died.

Following this line, Metschnikoff proceeded to study the relation of leucocytes to anthrax bacilli, to the micro-organisms of erysipelas, and to those various other affections. He likened specific inflammation to a warfare in which the invading army is represented by micro-organisms, and the resisting forces by the leucocytes. Even in details the analogy was maintained. Notice of the arrival of the invaders was telegraphed, so to speak, by the vaso-motor nerves; the line of communication, the avenues of mobilization, were represented by the blood-vessels. The aim of the invader is to secure the territory, to rapidly multiply, to live at the expense of his host, and to manufacture and circulate substances injurious to him. The aim of the resisting forces is to encircle the enemy, inclose him, digest him, and render him inert in battle. Many phagocytes die in the process, and, if in large numbers, the heaps of the slain represent pus; an abscess is a battle-ground densely packed with dead bodies. If victory remains with the invaders, the organisms pervade the affected part, multiply, and induce conditions incompatible with the life of the part, or perhaps with the life of the entire organism. If the battle is with the host, the parasites are destroyed, perhaps not without loss, but the normal state is gradually restored. Practically, on this theory each organism is regarded as possessing a standing army composed of mesoblastic cells, capable of rapid reproduction and rapid concentration, one important function of which is to protect the organism against destructive agencies invading it from without. Certainly a most attractive theory, fully deserving the attention which it has aroused. On the one hand widely accepted, on the other bitterly assailed, the question is as yet far from settled, and to the position in which it stands I propose briefly to refer, and then to offer some results of my own observations upon a disease in which special facilities exist for the study of the problem.

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* "Monthly International Journal of Anatomy and Physiology," 1885.

* "Ueber eine Sprosspilzkrankheit der Daphnien."

Metschnikoff has studied a number of diseases—erysipelas, anthrax, relapsing fever, and tuberculosis—with a view of finding facts in support of this theory, and his communications within the past four years have been numerous and elaborate.* They have been so widely abstracted and so often referred to that I shall not occupy your time by entering into details, but will briefly indicate the chief points upon which he lays special stress in these different affections, and note certain of the observations which have been made by other workers.

In erysipelas the cocci are attacked first by the leucocytes filling the lymph spaces, which rapidly proliferate, and actively eat the micro-organisms. Not alone do the colorless corpuscles act as phagocytes, but the fixed connective-tissue cells assist in an important manner. In cases of recovery he found that behind the advancing cocci the leucocytes were crowded with parasites, which showed evidences of digestion and destruction. The connective-tissue cells do not appear to attack the cocci, but are chiefly concerned with the absorption of the inflammatory exudate, even taking up the leucocytes which have died. In fatal cases there was enormous development of micrococci, the majority of which lay free in the tissues not inclosed in the phagocytes. Inoculations with erysipelas cocci in white rats confirm these observations made in man. The leucocytes attack the parasites, which undergo rapid degeneration in the protoplasm. The larger connective-tissue cells, macrophages, did not attack the cocci. Metschnikoff recommends experiments upon these animals with the erysipelas cocci as an especially favorable field in which to study the struggle between the cells and bacteria.

In anthrax Metschnikoff has studied the relation of the phagocytes to bacilli introduced into frogs, which, as is well known, possess immunity at the ordinary temperature, but succumb when the temperature is raised. A graft of a piece of anthrax tissue under the skin of a frog is within from fifteen to twenty hours surrounded by leucocytes, which take up many bacilli. According to Koch, they may grow inside the cells and even burst them, but Metschnikoff holds that the anthrax filaments do not develop within the cell, but are gradually destroyed by them, and that this is the reason why the frog at an ordinary temperature recovers. In the heated frog the bacilli rapidly develop and, the efforts of the leucocytes proving insufficient, the animal dies; not, it is asserted, from any inactivity on the part of the leucocytes, but because the bacilli secrete a liquid which protects them from attack.

In Baumgarten's criticism * he relates some experiments with the anthrax bacilli which directly antagonize these observations. Pigeons do not die when inoculated with anthrax, and he has found that the bacilli injected degenerate in precisely the same way in these creatures as when in distilled water; only here and there did the leucocytes contain the rods.

He has found that in frogs, though the bacilli are eaten by the leucocytes inversely to a degree of heat to which the animal is exposed, there is never total destruction of the bacilli by the phagocytes.

Hess (Virchow's "Archiv," Bd. 109) has performed experiments which bear directly upon these points. Anthrax cultures in Zeigler's glass chamber, inserted beneath the skin in animals not very susceptible to the disease, as dogs and birds, showed active migration of the leucocytes into the chamber which appear to attack the bacilli and to destroy them. These very striking experiments certainly indicate what, of course, is well known, a high degree of activity on the part of the leucocytes, finding their way, as they do, into the chamber closed at all points except one narrow orifice. But, as Hess says, it is a question whether the disintegration in the cells necessarily means destruction by the cells.

In relapsing fever Metschnikoff states that the spirilli are not attacked by the leucocytes in the blood, but are destroyed only in the spleen. In the artificially produced disease in monkeys he finds abundant inclusion of the spirilli in the phagocytes of the spleen during the period of the rise in temperature before the crisis. This, however, may simply mean that the spirilli, most of which gradually disappear from the blood at the crisis, have lived their life and are about to die, and in this state are taken up by the normal splenic phagocytes, just as are the effete red blood-corpuscles. He explains the recurrence of the second, or even of the third, attack of the fever by supposing that certain spirilli remain alive after the crisis and start afresh a new generation, which is not retarded in its growth, as the phagocytes are too busy in digesting the spirilli which they had eaten during the former attack.

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* Published chiefly in Virchow's "Archiv."

* "Zeitschrift f. klin. Medicin," Bd. xv, Hft. 1 u. 2.

An interesting study of phagocytosis has been made by Laehr,* a pupil of Ribbert, who has studied the effect of injection into the lungs of rabbits, through the trachea, of *Staphylococcus pyogenes aureus.* Within a few hours the cocci are almost all to be seen within the alveolar epithelium, and in the leucocytes, which latter, in the course of a few days, disappear from the alveoli and pass into the bronchi. Meanwhile, the alveolar epithelium proliferates, causing a catarrhal inflammation. Within the first week the cells contain many cocci, which gradually become less numerous, and in the second week entirely disappear. He looks upon this as a confirmation of Metschnikoff's views.

In a second investigation, Hess † has studied, in rabbits and in cats, the relation of the leucocytes to the *Staphylococcus aureus* inoculated in the cornea. At first there is marked increase, which leads to an acute inflammatory process in the neighborhood of the cocci. The leucocytes increase rapidly, and within two or three days almost all of the cocci are within cells. In cases which recover by the sixth day, no cocci are found. When the process does not result in healing, the phagocytosis is slight.

Baumgarten ‡ states that experiments made in his laboratory do not confirm these results of Hess.

Ribbert, in his study on the destruction of pathogenetic bacteria in the body,# supports Metschnikoff's views. He found, after injection of the spores of *Aspergillus* and *Mucor*, that they collected in the organs of the experimental animals, particularly in the liver and lungs, and that within a few hours after injection they were surrounded by leucocytes, which either completely prevented or restricted the growth of the germs. Injections in very large quantities might not be sufficient to hinder the growth of the parasites, and the animal died. In the lungs and in the liver the phagocytes are much more active than in the kidneys. Precisely similar occurrences were found where the spores were injected into the anterior chamber, and it is worthy of note that he found on the anterior surface of the iris, in the neighborhood of the pupil, the phagocytes much more active and the disintegration of the spores much more marked than in the posterior part of the iris in contact with the lens. Ribbert holds that the destructive influence of the leucocytes is exercised chiefly by their preventing access of nourishment to the spores (particularly of oxygen), and in favoring also an accumulation about them of destructive metabolic products. He regards the fixed connective-tissue cells of the liver, and the giant cells which develop in the liver and in the lungs, as the most important agents in the final destruction of the spores.

As we might suppose, the views of Metschnikoff have met with sharp criticism in many quarters, and from no one more ably or at greater length than from Baumgarten.* While not denying that the leucocytes eat the bacteria, he claims that the process is by no means universal, and is carried on so unequally that we can scarcely speak of an active warfare waged against the parasites.

As a specially weak point, he alludes to the powerlessness of the phagocytes in the *Daphnia* disease so soon as the conidia are formed from the spores.

In relapsing fever, the freedom from attack which the spirilli enjoy in the blood is urged strongly against the phagocytic theory. The fact that spirilli are found in a number of cells of the spleen toward the crisis simply means that the phagocytes of this organ behave to them as to other foreign bodies. Probably, too, the spirilli begin at this time to lose their vitality, as is shown by their less active movements, and are then readily taken up by the splenic leucocytes in a manner precisely similar to effete blood-corpuscles.

In erysipelas, Baumgarten criticises the position in which Metschnikoff finds the parasites—namely, in the second zone, behind the advancing cocci, as conclusively showing that they are not fighters of the battle—not, as he expresses it, "the heroes of the day, but the hyenas of the field."

The observations of Christmas-Dircknick-Holmfeld † are also directly opposed to the theory of phagocytosis. He finds in anthrax experiments that very few of the bacilli are taken up by the leucocytes. In rats they degenerate within two or three days after inoculation, and for the most part outside of the cells. He holds that pus formation is a conservative reaction against the penetration of the bacterial germs, but that the neutralization of the action of micro-organisms depends much more on the chemico-biological relations of the tissues than on any property of the cells to destroy them by inclusion. His view, in fact, approaches that of Ribbert, already referred to, in ascribing the limitation of bacterial growth to nutritive changes, particularly to the restriction of oxygen, rather than to any phagocytic action of the cells.

In Flügge's laboratory, observations have been made by Bitter and by Nuttall,‡ of San Francisco, which directly contradict those of Metschnikoff. Nuttall's elaborate experiments appear to show conclusively that the destruction of the bacilli in the living body is not effected by the phagocytic action alone.

And, lastly, in tuberculosis, the question of the relation of the cells to the bacilli is being carefully studied. In his recent paper on the subject,# Metschnikoff maintains that the degeneration of the bacilli, which has long been known to occur within the giant cells, results directly from their phagocytic action, and is not a natural decay. Baumgarten, on the other hand, regards the relation of the giant cells to the bacilli as one of the strongest evidences against the theory of phagocytosis.

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* Abstracted by Bitter, "Zeitschrift f. Hygiene," Bd. iv.

† Virchow's "Archiv," Bd. cx.

‡ "Jahresbericht," Bd. iii.

# Abstracted by Bitter, "Zeitschrift für Hygiene," Bd. iv.

* *Loc. cit.*

† "Fortschritte der Medicin," 1887.

‡ "Archiv für Hygiene," Bd. iv. I would particularly recommend the summary of Bitter's to those wishing further details, and, for a striking series of experiments, the paper of Nuttall's.

# Virchow's "Archiv," Bd. cxiii.

With the relations of phagocytes to bacteria I have had so little practical experience that I hesitate to express any positive conviction on the question, but I have for nearly three years been working at a problem identical in all its relations, but in which the parasitic bodies belong to a higher class of organisms. I refer to malaria and to the hæmatozoa which occur in the blood of this disease. A skeptical attitude in these days of hasty observation and of still hastier conclusions is peculiarly appropriate. I complain of no one who, without ample opportunities for personal study, claims the right to question the full significance of Laveran's important discoveries. Perhaps better than any one else I am in a position to extend sympathy to the skeptic, as, until ample material came to hand in 1886, I was among those who looked upon the work of Laveran with extreme incredulity. The corroboration in almost every detail which his studies have received during the past three years is in all respects remarkable. Working as he did, alone in Algiers, under circumstances the reverse of favorable, without proper laboratory equipment, without the stimulus to be found in the association of men in large cities, it is not only in the highest degree creditable, but most encouraging, that an army surgeon, actively engaged in the duties pertaining to his battalion, could accomplish so thorough a piece of work, requiring but little subsequent correction, and receiving at all hands ample confirmation.

Richard, in France; Marchiafava and Celli, Golgi and his pupils, in Italy; Sternberg, Councilman, James, Shattuck, and myself in this country; and Vandyke Carter, in India, working far apart, have all practically confirmed, with minor modifications and amplifications, Laveran's observations.

While the invariable association of these parasites with malaria would appear to be settled, their precise morphological relations are still a matter of discussion. I have urged, from their resemblance to other hæmatozoa, that they should be classed with the genus of *Hæmatomonas* (Metrophanow), which includes all forms of monads parasitic in the blood, of which a considerable number is known among the lower animals. Briefly, to refresh your memory, I may refer to the forms which occur in ordinary malaria. In the acute cases there exist in the red blood-corpuscles hyaline and pigmented bodies which undergo amœboid changes, and which gradually destroy the corpuscles, converting the hæmoglobin into a black pigment. Under certain circumstances, more particularly during the paroxysms, these bodies increase in size and undergo segmentation, breaking up into a number of small free spherical bodies. In smaller numbers in the blood, but more constantly in the spleen, are the remarkable flagellate organisms. Lastly, in more chronic cases there are the still more extraordinary crescentic forms. Practically, the unanimity which exists in the statements of the observers above named regarding these bodies, places the question of their existence in malaria (and I may say, based upon the number of negative observations, in malaria only) beyond any reasonable doubt.

That they truly constitute the actual germ of the disease is, however, a point upon which opinions may differ. The constancy of their presence, their absence in other individuals in malarial regions, their abundance in the graver forms of disease, the destructive influence they exert upon the blood-corpuscles, are urged by Laveran in evidence of their pathogenetic nature.

However this may be, the question which here concerns us relates to the relation between the phagocytes and these bodies. Surely one might suppose that here, if anywhere, the theory of phagocytosis might receive confirmation or rebuttal. What but phagocytes are the amœboid forms of these parasites which exist in the red blood-corpuscles, gradually destroying the stroma and the hæmoglobin until nothing but a shell remains? Here, indeed, are foemen worthy of the steel, or, rather, of the plasma, of the leucocytes. What, then, are the facts? How far can we say that in the blood in malaria, the seat most assuredly of the chief pathological changes, in acute cases, that there are evidences of a struggle between the phagocytes and the hæmatozoa? It has long been known that the leucocytes in this disease (particularly in chronic cases) contain pigment granules. There is no other affection in which melanæmia is so constant a feature, though it is now and then met with in other conditions. The leucocytes obtain the pigment either in the blood itself, or in the liver, spleen, or marrow, where the red corpuscles undergo their final destructive changes. In an examination of nearly 150 cases of all forms of malarial affections, I have looked carefully at this point with a view of determining the exact mode in which the leucocytes obtain their pigment, and in my observations of the past two years the question of their relation to the various forms of the hæmatozoa has engaged my special attention. It may be remarked, in the first place, that there is certainly an increase in the number of white blood-corpuscles, an increase not associated, so far as I know, with any special change in the character of these bodies.

The result of my work in this direction may be stated in a few words. In the blood, at least, there is very slight evidence of the existence of phagocytosis. Here and there, it is true, we meet with leucocytes which have included the amœboid forms of the parasite, either free or still surrounded with the shell of a red blood-corpuscle. I have but three or four sketches in a whole series illustrating this fact. Occasionally a crescent may be seen within the white blood-corpuscle, more frequently the smaller free bodies which result from the segmentation. I have in my paper on this subject given a sketch of a leucocyte which was watched for an hour and a half and had included one pigment body, and was about to take a second, behaving identically though more deliberately than its great prototype, the pond amœboid. I confess myself disappointed in this respect. It may be urged that in a blood drop after withdrawal the conditions are not favorable for study. But the absence of any great number of leucocytes containing parasites in a comparatively unaltered state shows that certainly in the circulating blood the leucocytes do not actively attack and eat the parasites. More probably, I think, they pick up the pigment granule after the disintegration of the parasite, or in such regions of the circulation as the spleen or the bone marrow, where the conditions are more favorable to phagocytic action. Even on the warm stage, with the leucocytes displaying for hours amœboid movements, and in specimens which contained "foes" innumerable, it was exceptional to see evidence of active warfare.

It is, of course, more difficult to obtain evidence of the relation of the supposed contestants in the spleen, liver, and marrow, the organs in which regressive and progressive blood changes are constantly going on. I have not myself practiced puncture of the spleen in these cases, as has been done extensively by Councilman. Fatal cases of malaria are not now very common. I have only had opportunities of examining two, both of chronic paludal cachexia, the result of prolonged exposure in Panama—one, an old man, admitted under my colleague, Dr. Musser, whose blood presented many of the characteristic forms; the other, a profoundly anæmic man, with a greatly enlarged spleen, but in whose blood very few of the parasites were found. In both instances the liver, spleen, and bone marrow showed characteristic melanotic changes. In the spleen the pigment in various shades, from brown to deep black, was chiefly in the thickened trabecular tissues and about the vessels. Teased portions showed:

(1) Large numbers of leucocytes containing brownish-black pigment grains. A few of the leucocytes contained the small amœboid forms which had been noticed to be very abundant during life.

(2) Larger cells, containing red blood-corpuscles in all stages of degeneration. These cells were of various sizes, and contained a variable number of corpuscles—from eight to ten, or even more. Some of the red corpuscles contained amœboid parasites, but by far the larger portion of them presented the usual appearance met with in cells of this character in the spleen.

(3) Large, irregular, flattened cells, probably derived from the epithelium of the spleen capillaries, which contained granular black pigment, and occasionally red blood-corpuscles.

(4) Spindle or branch cells of the reticular tissue inclosing brownish or black pigment grains.

(5) Free pigment.

Practically the condition was similar, though more extensive in degree, to that met with in this organ and in other febrile states associated with extensive blood destruction. I really could not say that the splenic phagocytes exercised any selective power in picking out for attack those corpuscles which contained parasites or crescentric forms, which in one of these cases existed in considerable numbers. The bone marrow in both cases presented microscopic changes characteristic of the lymphoid tissue, and had a grayish-brown color, due to excess of pigment. There were in it in large numbers marrow cells and ordinary leucocytes containing irregular pigment, and occasionally free amœboid forms of the parasites. The cells containing red blood-corpuscles were very abundant, but here, as in the spleen, it was particularly noted that the red corpuscles not containing the parasites were as frequently, or even more frequently, inclosed in the cells. In the liver the pigment existed in three elements:

(1) In leucocytes, which seemed numerous in the lobular capillaries, particularly at the periphery.

(2) In the walls of the capillaries, in all probability in the endothelial cells.

(3) In the stroma cells, particularly of the interlobular tissue about the portal canals, where in places it was sufficiently abundant to cause ordinary diffuse pigmentation, a part of which was due to grains lying free in the interstices of the tissue.

Metschnikoff states that in malaria the parasites are attacked chiefly in the spleen and the liver by the larger phagocytes existing in these organs, and to a much less extent by the leucocytes in the circulating blood.

We see, then, in malaria very little evidence in the blood favoring a theory of phagocytosis; certainly no such campaigning on the part of the leucocytes as might be expected from the presence, in such numbers, of foes so destructive to the red corpuscles. In the spleen, bone marrow, and liver, the organs in which the dead or dying blood discs are normally cremated, to use Weigert's expression, we have, as might be expected, an activity proportionate to the increased amount of material to be consumed, but scarcely such heightened phagocytic action as would indicate, on the part of the leucocytes, an aggressive warfare.

Into the interesting theory that to the action of phagocytes is due the immunity against certain diseases or against a second attack I can not now enter. In the present unsettled state of our knowledge it would be premature.

To conclude: While phagocytosis is a widespread and important physiological process throughout the animal kingdom, and while it undoubtedly plays a most important part in many pathological conditions, the question of an active destructive warfare waged by the body cells against the micro-organisms of disease must still be considered an open one.

## Original Communications.

### ON THE VALUE OF
### FREQUENTLY REPEATED DOSES OF ARSENIC
### IN THE TREATMENT OF
### BULLOUS DISEASES OF THE SKIN,
### ESPECIALLY IN CHILDREN.*

By L. DUNCAN BULKLEY, A. M., M. D.

Arsenic is perhaps the most frequently used and the most commonly abused of all the remedies employed in the treatment of diseases of the skin, and it is safe to say that a large share of all patients with eruptions have this drug administered to them by some one at some time during their course; and yet the experience of every one will testify that it is by no means the specific which could be wished for in these affections when they are taken as a whole. The cause of disappointment in the use of this therapeutic agent will be found unquestionably, as in the case of all therapeutic agents, in the failure to adjust the remedy to the particular diseased state for which it is valuable, and to use it in proper and sufficient doses with, if necessary, such other adjuvants to treatment as may be required. It is needless to add that in this lies the secret of the successful practice of medicine.

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* Read before the Section in Dermatology and Syphilography of the American Medical Association, May 10, 1888.

Arsenic is not an indifferent therapeutical agent, and there is no question in regard to its power to influence the skin; but there is also no question but that it is useless, or even harmful, in many of the diseased states to which this organ is liable.

It is not the purpose of the present paper to enter into the general subject of the use and value of arsenic in the treatment of diseases of the skin, nor to dwell on the necessity of an absolutely correct diagnosis and sound therapeutical indications in its administration; this subject was fully discussed by the writer twelve years ago,* and the literature of the subject presented, with also clinical records and illustrations, and later experience has further confirmed the statements there made. The aim of the present communication is to call especial attention to the undoubted and almost specific action of arsenic in one certain form or variety of skin disease, and to place on record a few cases illustrative of the same; also further to show not only the harmlessness but the value of frequently repeated and seemingly large doses of the drug in proper cases, especially in children.

The most notable and striking of all bullous diseases, in which arsenic seems at times to exert almost a specific influence, is pemphigus vulgaris. My attention was first called to the value of efficient doses of arsenic in this affection by the writings of that brilliant, versatile, and indefatigable worker, Mr. Jonathan Hutchinson, who, in 1854, reported a number of cases of pemphigus, some of which had been treated successfully with arsenic; this report was followed by subsequent records of cases by himself and others; and in 1877 the present writer † reviewed the literature of the subject and reported on five cases of pemphigus treated successfully with arsenic in free doses, in one of which cases the drug had twice appeared to save life. As this latter case was a most important one, demonstrating the specific action of arsenic in pemphigus in an absolute manner, I shall take the liberty of again briefly alluding to it; the other cases here mentioned have been treated since:

Case I.—Annie S., aged sixteen years, had had an eruption of bullæ, especially on the limbs, coming and going for a year previous to the date of my first seeing her; it had never given great trouble until a few weeks previously, when it increased with severity, the bases of the lesions taking on a diphtheroid character, and she rapidly sinking. When first seen there was every appearance of extreme exhaustion, with rapid and feeble pulse, and death was expected shortly by three physicians who had seen her. The eruption had affected the mouth, and the tongue and buccal cavity, as far as could be seen, were covered with ulcerating lesions, rendering speech and deglutition almost impossible; there were some large and distinct bullæ on the elbows and lower legs, but most of the lesions consisted of ulcerated surfaces, many of them covered with a pultaceous diphtheroid membrane, and some of them were horribly offensive.

All other medicine was stopped, and Fowler's solution was given, well diluted, four times daily, in doses beginning with four drops and increasing by half a drop at a dose until eight drops were taken four times daily. The results surpassed anything I had seen in other cases; within twenty-four hours improvement was very visible, and after three or four days all the lesions assumed a decidedly healthier appearance; a load seemed lifted from the system, the patient was cheerful, could talk easily, and no new bullæ had formed. Within a week or two most of the lesions had healed, no other remedy being used except a little carbolated zinc ointment to a few of the more offensive sores.

Some two months and a half after the first visit she had a relapse, owing to a neglect of the medicine, and once more she was in bed, prostrated and sinking. Again the eruption yielded to the arsenic alone in full doses, and she kept it at bay for some months, until she sank and finally died from tubercular disease of the lungs, which was aggravated if not induced by her most unsanitary surroundings in a room kept continually damp with laundry work.

Case II.—Mrs. L., aged twenty-two, had been married five years, and had had several miscarriages before and after the birth of a child, two years and a half previous to the commencement of her eruption; this child was perfectly healthy, and lived four months and a half, dying of some lung difficulty. About three months previous to the date when she was first seen, March 8, 1881, she began to suffer from chills with fever, and an eruption on the forehead, which was followed in three or four days by lesions on the back. The disease increased in intensity until she was shortly confined to the bed, and was more or less helpless up to the time of her admission to Mount Sinai Hospital, on March 3d, where I saw her in consultation with Dr. W. H. Fluhrer.

When seen she was in a pitiable condition; the face was largely covered with crusts, and the arms and legs were also thickly sprinkled with the results of past lesions, in the form of crusted masses, with sharply cut, ulcerated surfaces beneath, scattered among bullæ with more or less purulent contents; there were also a number of lesions on the chest and back. Her temperature on admission was 103° F. and her pulse 104 and weak, and she was emaciated and feeble. From the history and other reasons, syphilis had been suspected, and antisyphilitic treatment had been instituted, under which the eruption had grown worse; she complained of burning pain in all the lesions.

All other treatment was discontinued, and she was given three drops of Fowler's solution, every two hours, well diluted, and a mild carbolic ointment applied to some of the worst sores. The hospital records of March 9th, the next day, show that the eruption had begun to improve at once under the arsenic; and three days later it was recorded that many of the lesions had healed; the dose was then increased to four drops of Fowler's solution every two hours. For some reason, after the eruption had almost disappeared, she began to get worse, failing in health and strength, and I was asked to see her again on April 8th, the temperature having again run up to 103° at times, with occasional drops to 99°. I found that there had been considerable return of the disease, but the diagnosis of pemphigus was again confirmed, and the arsenic continued in free doses, with attention to the bowels and other details. To be brief, the patient again improved under the arsenic, and was discharged cured on June 17, 1881.

Case III.—Mr. T., a large, strong man, forty-nine years of age, who had always enjoyed good health, was first seen in consultation with Dr. Klotz and Dr. Scheider, July 28, 1887. He had had pneumonia in January, which was followed very shortly by an eruption of bullæ on the front of the chest; this increased rather slowly, and early in May bullæ existed all over the chest, on the scalp, and within the mouth. After that time the disease developed more rapidly, and he had been confined to bed for three or four weeks previous to the first consultation, spending also part of each day in a water bath, as much relief was obtained thereby.

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* "New York Medical Journal," August, 1876, p. 113.

† "American Journal of the Medical Sciences," October, 1877, p. 408.

When first seen much of the surface was covered with the eruption, which exhibited pemphigus lesions in various stages and conditions. The mouth was a mass of raw ulcerative lesions with ragged edges, and the lips were painful to use in any way. The arms, legs, feet, and hands, also the trunk, were the seat of bullous lesions, large and small, with raw surfaces caused by their rupture; the region of the sacrum was entirely bereft of epidermis, as also part of the feet and other portions, so that the suffering was intense.

He was given the liquor sodii arseniatis in doses of two drops, to be increased slowly to ten drops every two hours, in Vichy water, a few drops of laudanum to be added if diarrhœa was produced; a carbolized mouth-wash was prescribed, a calamine-and-zinc lotion applied to some of the inflamed portions, and the raw surfaces were dressed with cotton batting. The effect of the arsenic was seen shortly, and in a week it was recorded that the eruption had improved in every way; some of the sores had healed, and there was much less discomfort; but there had also been some new development of vesicles, especially on the left upper thigh, where there were dozens of clear, distinct bullæ of small size. The dose of the arsenic had then reached eight drops, but had not been taken as frequently in the twenty-four hours as was desired. One week later there was still improvement in the eruption, and there had been manifest gain in the general condition of the patient, who seemed reasonably comfortable and cheerful. Shortly after this time lung symptoms set in, apparently due to an extension of the disease downward from the mouth, which, however, had greatly improved in condition.

Soon after this the arsenic was discontinued for a day or two, and the change in the character of the eruption and the feelings of the patient was so apparent to every one that it was quickly resumed, and continued to the end. But it seemed finally unable to cope with the disease, for, although it held the eruption in check to a very considerable measure, the patient sank from intestinal complications, with occasional recurrence of his cough, both seemingly from a development of the disease on the mucous surfaces, and finally died on September 10, 1887.

Occasionally during the course of eczema, especially in elderly people, the nature of the process will appear to be changed, and lesions of a pemphigoid character will occur which may prove very distressing. These will continue to be formed in spite of the ordinary treatment employed for eczema, but will be found to yield promptly to the free use of arsenic alone, as in the following two cases:

Case IV.—Mr. O., aged seventy-seven, was seen in consultation with Dr. J. R. Conway, on February 12, 1884, on account of a very general eczema with which he had been confined to bed for a week. The attack had begun one month previously, and when he was first seen it covered the entire body and limbs, in the form of erythematous and papular eczema; there were no vesicular lesions, but some moist surfaces existed here and there from scratching. The eruption did very well under an acid, magnesia, and iron treatment, together with mild external measures, so that in three weeks he was very comfortable, and by the end of a month he had been out of doors, and seemed almost well again.

He then became careless in eating, and possibly relaxed treatment too much, and on March 28th it was recorded that he had had severe very general itching, with the production of many large and small erythematous patches, upon which were many grouped vesicles, and three days later there developed on the left wrist a pemphigoid blister, large and tense, nearly an inch in diameter. He was placed on an alkali after eating, and given ten drops of the liquor sodii arseniatis between meals, well diluted. A few days later more of the bullous lesions appeared, one of them three quarters of an inch long, on the front of the right tibia, and other smaller ones elsewhere on the legs. The arsenic drops were increased to twelve, three times daily, and very shortly the production of bullæ ceased. The arsenic was continued until May 10th, and, as he had had no bullæ for some time, they were stopped; but on May 15th they reappeared upon the legs, and he was given the arsenic alone, in ten-drop doses, four times daily, and the bullæ again promptly disappeared. The arsenic was continued for a month longer, and he went to the country apparently well.

In December the eczema recurred, and shortly after the bullæ reappeared, which, however, were again controlled by the arsenic; but his eczema remained more or less troublesome for some months later, although it finally yielded in the spring.

Case V.—The next case resembled the preceding one very completely, except that the eczema element was less severe and less general; it need, therefore, be but briefly detailed. The patient, Mrs. C., aged seventy-one, was referred to me by Dr. Leaming, February 5, 1877. The eruption had existed some months, and formed eczematous patches over the body and thighs, some of them erythematous and papular, some of them moist. During the course of the eruption pemphigoid blisters developed, mainly on the abdomen, which yielded promptly to the free administration of arsenic.

Arsenic is also found to be of very great service in controlling the bullous eruptions sometimes excited by the internal use of iodide and bromide salts, especially those of potassium. A single illustration of this will suffice:

Case VI.—Miss E., aged thirty-five, had been under treatment for syphilis, which was contracted nearly four years previously. As she lived some distance from the city, and neither she nor her family physician could be made to appreciate fully the requirements of the case, her treatment was carried out somewhat irregularly and with interruptions. One year before the occurrence of the eruption to be described, or early in the fourth year of her syphilis, she had a strange attack of partial paralysis, presumably syphilitic, from which she recovered under the treatment of her family physician, who understood her case; but after this date she had more frequent recurrences of epileptic seizures, to which she had been subject occasionally during the period of her syphilis, though unbeknown to me, and possibly once or twice during previous years. These epileptic seizures had increased during the year previous to my visit to be referred to, and she had been under the care of some irregular physician in another city for this trouble, and had also taken an advertised nostrum for epilepsy. By the latter part of April a bullous eruption appeared on the nose, and then on other portions of the face. This medicine was stopped on April 30th, but her own family physician, thinking the eruption to be syphilitic, had been giving her increasing doses of iodide of potassium, with the effect of daily increasing the eruption until seen by me, May 30, 1880.

When first seen the whole face was covered with a thick, black crust, the results of former lesions, with also much crust-ing on the scalp. On the chest and back nearly a quarter of the surface was covered with new and old lesions, many being also on the extremities. Here and there could be seen bullæ, rounded on top, up to half an inch in diameter, with apparently clear contents, giving exit to serum and blood when punctured. Some of these were recorded as seated on healthy skin, with almost no surrounding inflammation. Much of the eruption was composed of the crusted and ulcerated surfaces occupied by previous bullæ, and, to render the diagnosis more obscure, they were largely arranged in circular and serpentine forms. She was extremely exhausted. Pulse, 120; temperature, 101·4° F. in the mouth. The bowels were acting twice daily.

All other medication being discontinued, she was placed upon Fowler's solution, five drops every two hours, to be increased by a portion of a drop if necessary. She was also given a pill containing a third of a grain of opium, with two grains of quinine at bed-time, and locally carbolized oil (1 to 50) to be brushed over the lesions, some of which were very offensive.

The results from the arsenic were even more than could have been expected. Almost immediately the patient began to improve, and three weeks later the eruption had almost entirely vanished. The crusts fell off very shortly after beginning the arsenic, no new bullæ formed, and healing progressed very rapidly. Several months later she was given mild mixed treatment, with a moderate quantity of iodide of potassium, but never again was she troubled with such an eruption.

While arsenic proves of such signal advantage in the conditions already described in adults, its effects in some of the bullous eruptions in children are, if anything, even more marked in proper cases, and if given in efficient doses, as may be judged from the following cases:

Case VII.—Rosalie B., aged ten years, was sent to me by Dr. J. Ackerman Coles, of Scotch Plains, N. J., May 25, 1887. The child then presented a typical herpes iris, and her condition was then as follows: The eruption was confined to the hands and forearms, feet, and lower legs, with a few spots on the thighs and also about the mouth and on the lips, likewise within the buccal cavity. The feet and lower legs were pretty thickly covered with new and old lesions, and on the backs of the hands and wrists some were most typically characteristic, with a single bleb of some size and a circle of vesicles around, seated on a reddened base; in one or two instances there was a second circle outside of this. In some places the blebs were of very considerable size, and were recorded as about an inch in diameter; in other places they had ruptured, and the surface was either raw or covered with dried membrane or secretions. She suffered very considerably, more especially with the lesions on the lips and mouth, so that she could scarcely talk or take any nourishment.

The history of the case was that in January, four months previous, she had a first attack, which lasted about a week. A second attack came some few weeks later, and was even milder. The present attack had begun three weeks previous to her visit, and had increased steadily until the time she was seen. At the first visit she was given Fowler's solution, with an equal quantity of water, of which she was to take five drops every two hours, increasing the dose gradually to ten drops if necessary and if there were no unpleasant symptoms.

The next day, May 26th, there was already some improvement noted; many of the lesions seemed less inflamed, and the child seemed more comfortable. A little castor-oil was then ordered, as there had been some constipation, and the drops were ordered to be increased. Five days later very marked improvement was noted; the bullæ and vesicles were flattened, and most of the lesions were gone from the mouth, she having used also a lotion of borax, carbolic acid, and honey. A week later the eruption had disappeared, leaving only stains. She was then taking seven drops of the mixture, or three drops and a half of Fowler's solution every two hours.

On two subsequent occasions, when the arsenic was neglected, she had a recurrence of the eruption, which was promptly checked by a return to the frequent doses of the arsenic. The remedy was then taken at longer intervals until finally it was discontinued, and she remained free from eruption.

Case VIII.—Edward D., aged four years and a half, was brought to me in his mother's arms, October 29, 1887, so severely affected with herpes iris that he could not walk. The eruption began on the foot, four weeks previously, apparently from injury, the toe having been stepped on. The eruption had spread rapidly, with the development of new lesions, until, when first seen, much of the body was the seat of the disease, it being especially severe upon the extremities. The hands and arms were almost covered with old or new lesions, and the feet and legs so badly affected that they were only wrapped up in bandages, it being impossible to put on shoes or stockings. Much of the eruption consisted of abraded surfaces in various stages of inflammation, some covered with crusts, some raw, and between them, on healthy skin, were some characteristic bullæ of herpes iris, with clustered vesicles around; a new crop had appeared on the backs of the hands and feet the day before the visit, each fresh outburst being preceded by fever. There had been considerable itching, and the child was much pulled down by the disease.

He was given Fowler's solution, diluted one half with water, five drops to be taken every three hours, and a lotion of calamine to be applied freely to the diseased surfaces.

Three days later it was recorded that there had been very great improvement; most of the inflamed surfaces had dried up, but a few new blisters had appeared here and there, with clear contents. The arsenic drops were increased to seven or eight, equaling three or four of Fowler's solution, every three hours, no other treatment being given.

A week later he walked to the office, appearing almost well. There were, however, still a few new blisters developing from time to time, the largest one being on the left wrist, which measured half an inch by a quarter of an inch. It was found that his diet, which had been purposely neglected in order to test the remedy, was very faulty, he taking tea three times daily. These matters were corrected, milk was freely given, and the arsenic continued at six drops, every three hours, as he had shown a little diarrhœa from the drug. The case then progressed satisfactorily to the end, and the mother, seen a year after the last date, reports that all traces of the eruption vanished very shortly, and that it has never reappeared.

Case IX.—T., a previously healthy boy, aged two years, was seen in consultation with Dr. Packard, January 31, 1885, on account of what then appeared to be a dermatitis, beginning ten days previously on the left foot, from the irritation of rubber boots. It had increased and extended until much of the left foot and ankle were covered with a raw exuding surface, causing much pain. It was learned later, however, that the eruption had begun with blisters like those seen later in the disease. This first attack passed away very shortly under an ointment of oxide of zinc and a calamine lotion, with a little calomel and soda every other morning, and an iron-and-arsenic mixture.

He remained well until the middle of July, when, after a bath in the ocean, an eruption of blisters appeared on the hands and feet and then over much of the body. This passed away in three or four weeks, but returned shortly after on the left leg and buttock; the eruption kept recurring here until the patient was seen again on September 22d, when the hands and face were found to be swollen also, but with no eruption. He was given an alkaline and arsenic mixture with a laxative, and in ten or twelve days the eruption disappeared, and remained absent for a year or more.

When nearly four years old, after bathing daily in the ocean for a month, he had an eruption on the left arm which remained confined there for a month, when it developed on the body and left leg the day before he was next seen, October 2, 1886. There were then found three large bullæ, sharply defined on the left knee, something over an inch in diameter, with perfectly clear contents, with smaller vesico-bullæ on the body, and the remains of others on the left arm; all were seated on a more or less erythematous base, and there was considerable itching before the bullæ developed. As there was evidence of very bad liver action, he was given a mixture of rhubarb and soda with arsenic, and in a week the eruption had pretty much disappeared, but this was followed by a fresh outburst only a week or two later.

These repeated developments of the disease recurred several times until, on November 11, 1887, he was given Fowler's solution, diluted one half, to take from four to eight drops every two or three hours. At this time the eruption was more pemphigoid in character, the bullæ rising quite suddenly from an almost healthy skin, with little or no inflammatory base; the bullæ, some of which were at least half an inch in diameter, were seated on the buttocks, left thigh, and root of the neck. Six days later it was recorded that the lesions had all dried up and that no new ones had appeared, he then taking six drops of the mixture or three of Fowler's solution every three hours. Since that time he has remained free from eruption, and, although he has had disturbances of health requiring attention from time to time, he has never had any return of the bullous disease up to the date of writing.

In looking at these cases, we see that arsenic has proved of signal advantage in several different forms or conditions of bullous eruption, occurring in patients of both sexes and of very diverse ages; the oldest patient was seventy-seven years and the youngest three years of age; four of the patients here mentioned were males and five females. There is seen to be little in common in these cases except the fact that each of them presented bullæ, and that they were mostly of a chronic character, with repeated accessions of eruption until checked by the action of the arsenic. Of the three adults with true pemphigus, two died; but in these instances the drug was commenced very late in the disease, and one of them died, probably from tubercular lung trouble. From the manner in which the remedy controlled the eruption and benefited the patient's condition, from the results in the other cases of pemphigus previously referred to, and from what has been reported by others, there is little doubt but that in efficient doses, with proper adjuvants occasionally, arsenic may be counted on as a specific in pemphigus.

It is especially, however, with regard to its free administration in children, in proper cases, that particular attention is drawn at the present time. Children bear arsenic remarkably well, and, although I have given it freely in a very considerable number of cases, both such as these and in eczema, I have never seen untoward results, or any which caused me uneasiness. As a rule, arsenic acts with them as a purgative before it manifests its other physiological effects, and it may generally be safely given in bullous eruptions in increasing doses; if the disease does not yield, until it purges; then the dose should be slackened to a point where it is perfectly borne.

In many cases, of course, its effect will be more or less increased by the proper use of such other measures of diet and medication as circumstances may indicate; in the first case of a child here mentioned, castor-oil was given, and afterward the hypophosphites were added; and in the last child it was necessary to give occasional doses of calomel, and also an alkali and rhubarb and soda, and finally an iron-and-arsenic tonic; but in each instance it was the arsenic, used independently and in relatively large and frequent doses, which alone checked and controlled the eruption, while in the second case of a child only arsenic was used from first to last.

In regard to the mode of action of the arsenic, it has to be acknowledged that we know little or nothing in reference to the manner in which it operates in controlling the disease. To say that these lesions are neurotic in character and that the arsenic acts through the agency of the nerves, as it is beneficial in chorea and neuralgia, is only bringing the question one point nearer and not answering it completely. Writing upon this subject some time ago, Mr. Hutchinson * uses the following language, which expresses briefly about all we now know of the matter:

> "Arsenic does not merely repress the eruption, but remedies the unknown constitutional causes on which that symptom depends, always very much benefiting the general health of the patient. Arsenic does not prevent the liability to subsequent attacks, but such attacks are always much less severe than the original one, and tend, if treated by the same remedy, to diminish in intensity on each successive occasion."

A single word may be added in regard to the mode of administration of the arsenic. The preparation used in all these cases was either the arsenite of potassium or the arseniate of sodium in solution. These are undoubtedly the most appropriate preparations, and are those most commonly employed. It is well to prescribe them diluted with a definite quantity of water, both in order that the increasing dose may be more gradually augmented, and that there may be a lessened chance of error in dropping out each dose.

In giving the remedy every two hours it very often or generally comes apart from a meal; it is necessary, therefore, to direct that the dose be administered in a considerable quantity of water—at least a third of a tumblerful. It is often better borne by the stomach when it is given in Vichy water, which is often also otherwise indicated in these bullous affections.

4 East Thirty-seventh Street.

**Pigott's Brain.**—"The Madrid physician who made the post-mortem examination of the body of Pigott, the defaulting and self-confessed perjured witness for the 'London Times' in the great political trial now going on in London, and who committed suicide in Spain, declares he never saw such a well-formed skull and brain, the latter indicating a man of superior force of character and imagination."—*Boston Medical and Surgical Journal.*

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* Hutchinson, "Medical Times and Gazette," 1854, vol. i, p. 131.

# THE RELATION OF BACTERIA TO DIARRHŒAL DISEASES IN INFANCY.*

By L. EMMETT HOLT, M.D.

The study of intestinal bacteria is yet in its infancy. With our present limited knowledge it is manifestly unsafe to make sweeping generalizations or deductions. All that will be attempted here will be to consider the bearing of what now appears to be well established upon our notions of the pathology, prevention, and treatment of gastro-intestinal diseases in infancy.

In the study of the effects of micro-organisms upon the human body, under all circumstances, three factors must be kept constantly in mind:

1. The nature of the micro-organisms.
2. The dose, or numbers in which they enter the body.
3. The vulnerability of the patient.

It is nowhere more important to consider *all* the factors than in diarrhœal diseases.

I. *The Normal Conditions present in Infants on Milk Diet.*—For these we are indebted mainly to the work of Escherich. Those which are important in the present connection are:

1. That the small intestine is acid throughout the upper two thirds of its course.

2. The source of the acid is the decomposition of milk-sugar, which is present here, though not in large amount.

3. There is no decomposition of casein.

4. All the casein and the greater part of the milk-sugar appear to be absorbed soon after they enter the intestine.

5. Oxygen is absent, with the possible exception of a very small amount next the mucous membrane.

6. Thus far there have been isolated and studied but two varieties of bacteria which are constantly found in the intestines of nursing infants—the *Bacterium lactis aerogenes*, which is found in great abundance in the upper portion of the small intestine and diminishes in numbers as we descend, and the *Bacterium coli commune* (Brieger's bacillus), which exists in great numbers in the colon and in the stools. The *Bacterium lactis aerogenes* decomposes milk-sugar, with the production chiefly of lactic acid (Escherich) or acetic acid (Baginsky), and to one of these the acidity of the intestine here is due.

This bacterium also produces carbon dioxide and hydrogen in considerable amount, but has very little effect either upon albumin or fat.

The *Bacterium coli commune* acts but very slightly upon either casein, fat, or sugar.

An explanation of the small number of varieties constantly present is to be looked for in certain conditions which prevail in the intestine which limit bacterial growth. These are the exclusive diet, the absence of oxygen, and the rapid absorption of both casein and milk-sugar. Bile does not act as an intestinal antiseptic, since Booker and others have found that almost all intestinal bacteria grow well in a ten-per-cent. solution of bile. Its influence in diminishing intestinal putrefaction, then, must be due to its action in digestion and absorption. When bile is absent these processes are imperfect, and decomposition takes place in the unabsorbed residuum.

The acidity of the stomach is no protection to the intestines against the entrance of living bacteria. The acidity is not great except when the digestive process is at its height. Miller found that unless it reached 1·6 per cent. of hydrochloric acid it did not stop bacterial growth. Van Puteren examined the contents of the stomach in eight infants, and never found an acidity exceeding 0·8 per cent., and, finally, MacFadyen demonstrated that in dogs, by giving at the same time large draughts of water, almost any variety of bacteria could be made to pass the stomach without being destroyed.

It has not yet been established that bacteria have any essential part to perform in the physiology either of gastric or intestinal digestion. Nor does the theory advanced by Baginsky—that the function of the bacteria constantly present under normal conditions is to prevent the development there of abnormal species—find any adequate support either from the observed facts or from analogy in other parts of the body.

II. *How may these Normal Conditions be altered?*—1. The varieties of bacteria which develop anywhere are dependent, among other conditions, on the food present. Escherich found that the species existing in the intestines when the diet was exclusively milk disappeared and gave place to different species when milk was excluded and a meat diet substituted. The conditions are also altered in infancy by anything which increases the amount of unabsorbed materials in the intestine.

Practically, we find that this may occur in three ways:

First. There is a failure of digestion, the character and quantity of food being normal. This failure may be a sudden one, as in the invasion of acute disease; it may be habitual, from constitutional debility; it may be the result of many nervous influences, as depression from high atmospheric temperature.

Secondly. The quantity of food given is too large, so that, even though its character is proper, normal digestive powers can not take care of it.

Thirdly. Food so improper for infantile digestion is taken that it is not acted on at all, or but very slightly.

In all these cases the result is essentially the same—viz., there are present in the intestines masses which, at the temperature of the body, readily undergo putrefaction. If the active cause is only a transient one, as soon as the decomposing substances have been eliminated, proper feeding and the re-establishment of healthy digestion soon restore normal conditions.

If the cause continues operative, other results follow which will be detailed hereafter.

The conditions considered thus far may be looked upon as furnishing a favorable soil for abnormal bacterial growth in the intestines, the regulating mechanism being in all cases a normal healthy digestion.

2. There may be introduced into the intestine, with the food generally, pathogenic germs. Their effect will depend

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* Read before the New York Clinical Society, February 22, 1889.

upon their nature, the number which gain entrance, and the conditions they find there.

Regarding specific germs as a cause of diarrhœal disease we know as yet nothing positively, if we except the observations of Lesage and Hayem upon the bacillus of green diarrhœa, which lack confirmation so far, and which have not been generally accepted by bacteriologists.

The toxic dose of bacteria must vary with each individual. The number which can be taken into the intestine of a strong infant with healthy organs without any unfavorable result is undoubtedly pretty large. A much smaller number in a delicate infant of feeble constitution is sufficient to set up the most active decomposition with serious results.

This constitutional factor is an important one, and one which has not been usually sufficiently considered.

The most important condition, however, is that of the digestive organs. While healthy organs are able to withstand the action of bacteria unless their number is very great, imperfect digestion, with its consequences—a mild catarrh and the presence of undigested materials in the intestine—furnishes the conditions most favorable to decomposition. Now the entrance of a comparatively small number of bacteria may become dangerous.

3. Poisonous ptomaines may be formed in the food outside the body, the introduction of which may produce toxic symptoms independent of any previously abnormal conditions being present, these requiring only absorption. These toxic symptoms may be the same as if the ptomaines had been produced by decomposition in the intestine.

III. *Results of Abnormal Bacterial Growth in the Intestines.*—The continued presence of undigested or indigestible food may produce effects mechanically, or more commonly by the decomposition from bacteria. Catarrhal inflammation of the mucous membrane is set up by the irritating products, acids and ptomaines, which the bacteria produce. This intestinal catarrh may be at first of a very low grade, but, as a consequence of it, mucus and serum are added to the intestinal contents, and probably oxygen also from the hyperæmia, all these new conditions tending to increased activity of bacterial growth, which in turn aggravates these lesions. It can not be positively affirmed, but it seems altogether probable, that such a catarrh interferes with the secretion of normal gastric and intestinal fluids.

Given, then, impaired digestive force and an intestinal condition such as has just been described, and it is not difficult to understand how pathogenic germs may develop with great rapidity which under normal conditions could not find a foothold.

That this is exactly what takes place seems to be borne out by clinical experience. It is a matter of every-day observation that the severe types of intestinal disease are almost invariably preceded by the symptoms of a mild disorder for some days.

Another injurious effect of the bacteria is that they set up decomposition in the food in the stomach and intestines, so that the patient suffers from innutrition. This effect is produced in another way: the increased peristalsis which accompanies the catarrh hurries the food along before absorption can take place, and in this way also adds to the bulk of the decomposing mass lower in the bowel.

The final results in every case are:

1. Innutrition of the patient.

2. Catarrhal, croupous, or follicular inflammation of the mucous membrane.

3. Toxic symptoms from the absorption of ptomaines.

With our present knowledge it is not possible to say certainly whether the development of abnormal bacteria is to be regarded as the primary cause of digestive derangements or the result of it. The facts, as we now understand them, seem to be most easily reconciled with the latter view.

In what, then, consists the peculiar susceptibility of children under two years? We may not attribute it to the milk diet, for this food is taken almost as freely during the third as during the second year without any such injurious results. We do not yet know of any anatomical or physiological differences in the intestinal tract in later childhood sufficient to explain the fact, and we must fall back to the view that there is then increased power of resistance to bacteria; that in children over two years the intestinal tract almost ceases to be a vulnerable point for bacterial attack.

The comparative immunity of children in the country, and of the better classes in the city, is to be explained in the same way.

Breast-fed children escape by reason of the fact that their digestive organs are usually healthy and their food is free from germs.

Hand-fed children suffer most—first, because they are almost always overfed; secondly, because many of them suffer a large part of the time from a mild type of catarrh; thirdly, because in summer their food contains germs in abundance. In the absence of the third condition the two others are not usually potent enough to produce serious consequences. But the union of all three gives us our worst cases.

To summarize:

1. We accept, then, the doctrine that we are concerned most of all, in the gastro-intestinal disorders of infancy, with the development of abnormal bacteria, but as the first step there is a failure of complete digestion and perfect absorption.

2. Mechanical diarrhœa from the presence of foreign bodies, or food which acts as such to infantile digestion, and that resulting from the ingestion of poisonous ptomaines, are probably the only varieties to be excluded from this class.

3. The anatomical changes are those of inflammation of the gastro-intestinal mucous membrane; but the lesions are the results, either directly or indirectly, of the micro-organisms. Since micro-organisms are found in numbers only superficially, except where ulcers exist, it seems most likely that their action is an indirect one through their ptomaines.

4. As to the exact nature of the processes of putrefaction which take place in the intestine, and the bacteria which produce the different forms, we are as yet almost in entire ignorance.

5. One clinical form of diarrhœal disease—viz., true cholera infantum—has many features which point to a specific germ as a probable cause.

To what views of prophylaxis and treatment of intestinal disease does the foregoing discussion lead us? Time will not permit here more than an outline.

Two things are essential to active bacterial growth—the entrance of living germs in numbers, and a proper soil for their development. Prophylaxis must have regard to both these conditions.

Germs are to be excluded by sterilizing milk for all children under two years, by absolute cleanliness of bottles and everything with which the milk comes in contact, and by securing pure air. Tompkins found in Leicester, England, that in one section of the town where diarrhœal diseases were very prevalent there were from three to six times as many bacteria in the air as in other sections. The water supply was the same for all, and the food not essentially different.

Equally important is cleanliness of the mouth. Van Puteren found in infants suffering from thrush that the number of bacteria in the stomach was forty times as great as when this condition was absent.

To secure a soil unfavorable for bacteria we must have healthy digestion and absorption. This means a great deal. To secure it we must, in the first place, build up the infant's constitution; secondly, food suited to the powers of the digestive organs should be given; thirdly, regularity in feeding must be insisted on, and night nursing and feeding stopped as early as possible; fourthly, the stools should be inspected to see whether what is given is properly absorbed; fifthly, all minor derangements should be attended to; sixthly, during the hot summer season the amount of food should be materially reduced, and infants should be allowed water freely.*

As to treatment, three distinct indications present themselves:

1. To nourish the patient.
2. To combat the abnormal bacterial growth.
3. To treat the lesions.

All these indications must be considered if success is to be the result of our efforts. The force of the different indications may vary in different stages of the morbid process; thus, early in the disease the second indication may be the most important, while later on the third indication comes into great prominence.

In all stages we have to deal with a very complex process, and its management will never, I think, be reduced to so simple a thing as the discovery of a pathogenic microbe and the giving of its appropriate germicide.

15 East Fifty-fourth Street.

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* Under this last point I wish to call attention to an experience of Dr. David Little, of Rochester, N. Y., which he published in "The Transactions of the Medical Society of the State of New York" in 1884.

In an orphan asylum in his city where every previous summer had witnessed a number of deaths from diarrhœal disease, he directed that infants should be fed at three-hour intervals during the day and should have nothing at night. Water was allowed freely at all times.

The season passed without a fatal case from diarrhœal disease. At the close of the season he remarked to the sister in charge that the new rules of feeding had proved beneficial. She replied: "*Yes, but it did seem rather cruel to feed the infants only three times a day.*" These were the directions as she had understood them and as they had been rigorously carried out. The moral is plain.

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## PRIMARY CARCINOMA OF THE PANCREAS.*

By W. GILMAN THOMPSON, M. D.

The patient, J. S., female, aged fifty-five years, married, German, and a dressmaker by trade, was admitted to the New York Cancer Hospital, September 15, 1888. There was no pertinent family history. The patient had been in average health until two years previous to her admission, when she had occasional digestive disturbance, consisting of vomiting, slight epigastric pain, and discomfort. No decided symptoms were observed, however, until six months before admission, when she noticed a small nodule deeply seated in the lower epigastric region toward the left. This mass had grown steadily and rapidly. During this period there had been considerable vomiting at intervals, especially after meals, but no constipation at any time. Physical examination showed the patient greatly emaciated, the height five feet three inches, and the weight only one hundred and ten pounds. She was very anæmic, but not jaundiced. The blood contained 40 per cent. of the normal amount of hæmoglobin. There was a pulmonic systolic bruit and a venous hum in the neck. The lungs, liver, and spleen were apparently normal. A large, solid mass larger than the adult fist was felt situated at the junction of the epigastric and left hypogastric regions, and extending into the umbilical region. The tumor elevated the surface of the abdomen about half an inch, and the larger portion of it was below the umbilicus. It was hard, movable, gave no sense of fluctuation, and no pain or nausea on deep pressure. The percussion note over the mass was distinctly dull. The patient was put upon symptomatic treatment, with careful regulation of the diet. Lavage was employed and the food was fairly digested. I examined the tumor from time to time and found it altered considerably in position, and also in the character of its percussion note, which on one occasion became distinctly tympanitic. This circumstance, together with the fact that so large a tumor had at no time occasioned very severe gastric symptoms, led me to suspect the possible presence of a pancreatic cyst. I ordered a large dose of cod-liver oil, in order to see if it would be voided in the stools. None appeared, however, and as there was no jaundice, I inferred that there was enough bile present in the duodenum to emulsify the fat and replace the pancreatic juice. As the diagnosis was far from certain, I had the contents of the stomach tested with great care for the presence of hydrochloric acid. None was found at any time during a period of ten days—a fact which seems to throw additional discredit on the phloroglucin test.

Emaciation continued, the tumor increased slightly in size, and about six weeks before death a copious diarrhœa began, which was with difficulty controlled. The patient died January 7, 1889, or sixteen weeks after admission. I omit unimportant details of the autopsy, and will merely refer to the tumor. Dr. Freeborn, pathologist to the New York Cancer Hospital, kindly gives me the following data: A hard scirrhous mass occupied the entire head of the pancreas. Connected with this was a cyst which might have held a couple of quarts of fluid, when distended. The cyst had two large openings—one into the duodenum and one into the transverse colon. There were no secondary deposits found anywhere in the body. The mesenteric and other glands were not enlarged. The stomach was normal except for a hypersecretion of mucus, the duodenum was congested, the tail of the pancreas was normal, and there were two ulcers at the upper portion of the rectum and one in the descending colon.

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* Reported at the New York Clinical Society, February 22, 1889.

The features of special interest in the case seem to me to be: 1. The fact that the growth was a primary carcinoma of the pancreas with no carcinomatous foci elsewhere. This situation is believed to be a very rare one for primary carcinoma, but, upon recently consulting statistics, I have been surprised to find so many cases reported.* 2. The variations in the size and in the percussion note were an indication that the cyst was at times emptied or filled with gas through one of its communications with the intestines. 3. The absence of jaundice, which is said to invariably accompany carcinoma of the head of the pancreas. The stools were clay-colored, and the common orifice of the bile and pancreatic ducts appeared to be completely involved in the scirrhous mass. 4. The failure of the oil test and the hydrochloric-acid test to give the results one would naturally expect from the state of things revealed by the autopsy.

Early in the history of the case I asked several of the members of the staff to examine the woman to see if it was advisable to aspirate, but the signs of a cyst were obscure, and it was generally supposed to be a carcinoma of the stomach. Since the cyst opened freely into the intestine, aspiration would in any event have proved useless. There was nothing in the character of the stools prior to death which suggested cystic fluid.

## TEMPERATURE IN FEVERS.

By CUVIER R. MARSHALL, A. M., M. D.,
PHILADELPHIA.

My attention has been attracted by Dr. J. Elliot Langstaff's article in the "New York Medical Journal" for March 16th on "Temperature in Fevers," in which he shows "the absurdity of the general impression that a temperature of 104° must be energetically combated." It is an indisputable fact that the temperature is the first symptom attacked by many practitioners in their treatment of any form of fever. A great deal has been written lately upon the subject of the cause of the febrile rise and the effect of the same upon the various tissues of the body, and we have come to believe that the temperature is really not a dangerous symptom which must be suppressed or modified, but that it is evidence that the waste matter with which the system is charged is being oxidized, and thus prepared for elimination from the body through the natural channel, the kidneys. The higher the temperature ranges, the greater is the amount of toxic matter to be oxidized, and in like proportion is that process actively increased. Now give an antipyretic, such as quinine, antipyrine, or acetanilide, and what is the result? The temperature may fall and the physician be accordingly gratified, but the oxidation of toxic matter having been retarded, its elimination by the kidneys is interfered with. This is partly shown in the notes of the case which Dr. Langstaff presents to our consideration. The administration of the calomel stimulated the liver, resulting in a temporary increase in the oxidation of the poisonous matter in the blood, followed by an abatement of the symptoms. The administration of the acetanilide and quinine, afterward, was followed by nausea and a rise of temperature and pulse-rate. All medicines being set aside, the daily temperature remained stationary for sixteen days without any direct serious consequence. Still further on it is observed that the administration of a dose of calomel was followed by an improvement in the symptoms; a less generous use of peptonoids, with the substitution of skimmed milk for sweet milk, might have rendered the labor of the digestive apparatus less embarrassing. It is true that quinine retards disintegration of tissue, but at the same time it diminishes oxidation and consequent elimination of waste matter through the kidneys. Professor Welch, of Baltimore, has called attention to the fact that there is a less general acceptance of the old ideas respecting the dangerous character of even a moderate rise of temperature. From the foregoing facts we should naturally conclude that in the treatment of fevers we should not only avoid interference with Nature's attempt to dispose of the poisonous matter, but, on the other hand, should use every agency to assist her to accomplish that very end. The oxidation of waste matter takes place in the liver. When the liver is irritated by the specific poison of any disease or by an excess of albuminoid matters in the blood or by fats which have undergone the butyric-acid change, it becomes incapable of performing this function, and hence an accumulation of toxic matter takes place. The irritated liver should be relieved by cutting down the supply of albuminoid foods, substituting for them starchy substances—such as arrow-root, corn starch, or rice flour—which may be predigested by means of malt or pancreatic extract. A very excellent pabulum is a recent modification of Liebig's food known as malted milk. Milk is usually the basis of the die in fevers, and when it is found to disagree with the patient, on account of the butyric-acid fermentation, a trial should be made of skimmed milk, which contains only substances that are digested in the stomach. The feeding with peptonoids in fevers should be very sparingly indulged in, as their presence increases the amount of work to be done by an already lame liver. Hepatic stimulants are indicated, and among the best of these are the acid salts of potassium, such as exist in oranges and lemons. Small doses of calomel at stated intervals would be of decided value, and I am in the habit of prescribing large doses of water at frequent periods, for water, as we all know, is a natural diuretic, and it thus aids in the elimination of toxic substances. Daily washing out of the rectum by simple water enemata is a practice to be highly commended in such cases as the one which Dr. Langstaff has presented.

1631 DIAMOND STREET.

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* Senn, Wood's "Reference Handbook of the Medical Sciences," v, pp. 456 *et seq.*, art. "Pancreas, Diseases and Injuries of."

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## THE MEDICINAL TREATMENT OF INTESTINAL OBSTRUCTION.

Hofrath Professor Nothnagel recently made a notable contribution to the discussion of the pathology of ileus and of its treatment by other measures than laparotomy, at a meeting of the *medicinisches Doktoren-Collegium* of Vienna, a stenographic report of which was published in the "Internationale klinische Rundschau" for March 17th. So far as the pathology was concerned, his remarks related chiefly to the phenomena observed when artificial intestinal stenosis was established by means of a ligature in experiments upon the lower animals. In such experiments the animal is kept anæsthetized for a number of hours, with the body immersed in a blood-warm half-per-cent. solution of common salt. The effect of the ligature upon peristalsis varies according to whether it is applied to a quiescent portion of intestine or to one in which a peristaltic wave is already in progress. In the former case it does not give rise to tempestuous peristalsis; in the latter it does. When the ligature is tight enough to cause effectual obstruction, violent peristalsis sets in in the portion of intestine above the constriction, the contents are forced down against the stricture, and the intestine just above the ligature becomes overdistended and at length paretic; but no antiperistalsis is observed. Fæcal vomiting is accounted for by the fact that it is in the direction of the stomach that the least resistance is encountered. The intense pressure at the seat of stricture, brought on by the stormy peristaltic action set up above it, gives rise not only to paresis and distension, but also to ulceration or gangrene in some cases; and, independently of either of these occurrences, collapse and death may take place as the direct consequence of intense irritation of the nerves, especially of the splanchnic nerve.

As regards the treatment, therefore, every indication points to measures capable of soothing the irritation and calming the intensified peristaltic action. Above all things, purgatives should be avoided. In cases of simple fæcal accumulation they may be used with advantage, but they are worse than useless in cases of mechanical obstruction. No food of any sort should be taken into the stomach, but the patient may be allowed to take a little liquid food into the mouth occasionally and then reject it. Although peristalsis above the stricture is to be restrained, it may be encouraged below that point without harm and sometimes with benefit; occasionally it seems to relax the constriction and admit of the passage of some fæcal matter. This is best accomplished by employing enemata of warm salt and water. Opium should be given in large doses, preferably in the form of the crude drug, but, if that is not well borne by the stomach, morphine may be used subcutaneously. Opium not only restrains peristalsis, but tends to sustain the patient's vital power. Nothnagel thinks that Kussmaul's method of treatment by washing out the stomach has been overestimated. He thinks that most of the successful cases reported have not been well marked, and that the unsuccessful ones have been largely withheld from publication. Little more value is attached to the use of large enemata, electricity, belladonna, nicotine, or mercury.

## THE FACTS IN THE CASE OF GENERAL BOULANGER.

A few months since we called attention to the alleged vagaries which some of the physiological functions necessary to the existence and well-being of General Boulanger presented for discussion, and expressed the deep sympathy we felt for him in the very disagreeable trials to which he was daily subjected by reason of the anomalous arrangement and the unique action of his anatomical plant. We are heartily rejoiced at his escape from the hydropneumonic disaster of "suffocation from hæmaturia into the respiratory passages," with which he was menaced during his convalescence from the wound he received in his recent duel, if we may credit the statement of a correspondent of the New York "Sun." We have marveled much at the indomitable will and superhuman energy of the man who, although heavily handicapped by the eccentricities of amphibious lungs and a fossa navicularis laryngis, has succeeded in his ambitious attempt to represent in the Chamber of Deputies several senatorial districts at the same time. We have sympathized and rejoiced with, as well as marveled at and almost worshiped, the "Man of Destiny," and only to be informed at last that he is not the brilliant genius we thought him, but a debased and degraded "morphomaniac"! This hideous allegation is sired by an iconoclastic correspondent of the New York "World," who has evidently published it in consequence of an overweening desire to promulgate a Rowland for the Oliver of his fellow scribe, and to offset in his own paper the prestige gained for its bitter rival in the struggle for journalistic pre-eminence by the "hæmaturia" masterpiece to which allusion was just now made. We can easily imagine how that *chef-d'œuvre* of the latter *littérateur* has been a thorn in the flesh of the "World" correspondent, rankling in the most sensitive precinct of his reportorial soul, until the moment when his trenchant pen traced the esoteric word "morphomaniac"; and then the fierce joy which replaced the smart of the thorn and was as spikenard of great price to his wounded spirit must have polarized the battery temporarily as it was accompanied by the correspondent to the telegraph office.

But, in our humble opinion, it seems difficult to understand how the distinguished general could be other than a morphomaniac under the circumstances. His is not the conventional type of plumber's handiwork, for we must not forget the danger of asphyxiation from hæmaturia to which he was exposed at the time his wound was healing. The careless or superficial reader might form the opinion that the term "morphomaniac" was but a euphemism for the accusation that

Boulanger is a modern Narcissus, morbidly vain of the perfection of his own figure—or, as they say, "*Il voyage sur sa forme*"—posing in picturesque attire on the Tribune or the boulevard. This hypothesis might be of some explanatory value were it not for the known abnormity of the relations of the gentleman's ureters, and for the fact that mention is made of his use of morphine hypodermatically. These two facts, however, powerfully illuminate the obscure parts of the subject, and indicate the true mental condition of General Boulanger. His mania is not objective, if we may so term it, but subjective—that is, he has no concern as to the ratio existent between his bust and his waist measures, but he broods over his hard lot as the possessor of mediastinal ureters and a prostatic thyreoid gland. And why should he not feel discomfort at this thought? How would the correspondent feel were he constructed in like manner and obliged to look in the face the prospect of possible dilating tracheotomy or of intubation of the larynx after each occasion on which he had imprudently sat upon a cool door-step of a summer evening? Would he, after the vigorous prime of life had passed, and the harvest time of declining years had come upon him, enjoy the contemplation of an incipient goître in his own person, and the steady growth of the same from day to day?

The truth of the matter is that the afflicted warrior-statesman has been making an attempt to rectify his *ectopia ureteris* by some system of massage, gymnastics, or Swedish movements, and has, in consequence, induced such intense ureteralgia that he has perforce had recourse to morphine. At least this is the only theory that will explain the facts as reported, and it is certainly plausible and practical. Flippant and shallow speculations of frivolous persons have been advanced: that the mental state of the patient is one of inordinate fondness for the contemplation of the female form divine, and that the correspondent actually wrote the word "morphinomania" in his dispatch, but that the fierce joy already mentioned caused the second syllable to fade and slough away as it streamed from the writer's eyes when he read over the message while waiting for the depolarization of the battery. We need make no comment on these puerile absurdities; for who ever heard of an amorous French statesman or of a newspaper man who erred in the use of a medical technical term?

The general's *bas-fond* has simply become irritated from the superacidity of recent oratorical efforts, or from the labor of canvassing his district, with its necessary indiscretions, prior to the late election; and possibly he has viewed with alarm that there was a too copious brick-dust deposit on the floor of the chamber circumjacent to his own desk, which may have caused the expression of covert sarcasm by the supporters of the Government. In his simplicity, the general took the advice of some lay friend, and undertook to remodel the general arrangement of his internal works—hoping to coax his ureters from their thoracic bearings to a new gearing in the pelvis by means of violent mechanical measures—instead of adopting the rational method of employing alkaline salts and a restricted diet.

He can never succeed in his foolish attempt, and, unless he can bring his mind to the conviction that ureters are placed by nature as permanent fixtures in the locality they affect, he will only bring pain, chagrin, and despair on himself, if indeed he does not by his efforts cause volvulus of the ureter or entangle that duct with the phrenic nerve or the thoracic aorta. If he does not disabuse his mind of this vain hope of ultimate success in his preposterous plan of self-improvement, we fear that the destiny of which he is the man will be that of a gibbering lunatic.

## MINOR PARAGRAPHS.

### A JUDICIAL VIEW OF MEDICAL SECTARIANISM.

Our homœopathic friends ought to be interested in a correspondence published in the April number of the "New York Medical Times," for it touches upon a point as to which they are frequent offenders. It seems that the editors of the "Times" asked Judge George C. Barrett, of the New York Supreme Court, this question: "Has a physician designating himself a 'homœopathist,' and called as such to a patient, any legal or moral right to adopt other than homœopathic means in the treatment of the case?" In his reply, Judge Barrett appears to have written rather as a moralist than as a jurist. The gist of what he says seems to lie in the following passage:

"An honest 'homœopath' who has not succeeded, after doing his best with the appropriate homœopathic remedies administered on homœopathic principles, should undoubtedly try anything else which he believes may save or relieve his patient. But, when he reaches that point, the duty of taking the patient into his confidence becomes imperative. The patient may refuse to submit to the other system or he may agree, but prefers a physician whose life has been specially devoted to practice under that other system. He may say to the 'homœopathist,' You have failed, but I prefer to try another gentleman of your own school before resorting to a system that I have long since turned my back upon. Or he may say, Well, if homœopathy can not save me, I prefer to go to headquarters for allopathic treatment."

It seems pertinent to ask what Judge Barrett or any other layman of a judicial turn of mind would say if he were aware of the extent to which so-called "homœopathists" resort to other than homœopathic measures even in the cases of patients who do well under their ministrations—if, for instance, he were to take a look at homœopathists' prescriptions as they are to be found on record at the apothecaries'. If the stigma attaching to homœopathists rested only on their confessed failures, the case would not be so pronounced against them; it is their constant and clandestine recourse to what they are pleased to term "allopathy" that fastens on them a disgrace well understood in the profession, but one of which the public is studiously kept in ignorance.

### A NEW OPERATION FOR EMPYEMA.

A Russian surgeon, Dr. M. Ssubbotin, describes in "Wratsch," 1888, No. 45, a new thoracoplastic operation. From a summary given in the "Centralblatt für Chirurgie" for March 16th it appears that the author's operation, which he has done once with success, is as follows: A segment from two to three inches long is first resected from the seventh rib, as usual, the pleural cavity being opened and washed out. This opening is then plugged with gauze to prevent infection of the wounds still to be made. A vertical incision about five centimetres long is next made along the outer border of the pectoralis major muscle. Through this the sixth, fifth, and fourth ribs are exposed without being denuded of periosteum, and from each of them a little wedge is removed by means of Liston's bone-scissors, so that the rib is made movable. A similar vertical incision is then made in the posterior axillary line, serving for the exposure and division of the same ribs in this situation. These two incisions, not opening into the pleural cavity, are sutured without drainage. The portions of ribs lying between the two points of section are thus enabled to sink in, and, when healing has taken place, they protect the thoracic cavity and at the same time serve as supports to the vertebral column.

### SENILE CHOREA.

According to Dr. J. M. Anders, who lately read a paper before the Philadelphia County Medical Society, in which he gave the history of a case in a man sixty years old, chorea in aged persons is generally believed to be rare. Not many years ago writers on the subject of chorea held that old age was of itself conclusive evidence that this disease did not exist in any given case. But since the collection and publication of twelve cases by Robert Saundby, in 1884, the fact that senile chorea is a distinct affection can no longer be doubted. From ordinary chorea, which usually occurs during the period of approaching puberty, it differs widely as to ætiology, and, probably, pathology as well.

### THE NEW YORK HOSPITAL LIBRARY.

The library has recently received a legacy which materially augments the value of its already remarkable collection. The late Professor T. T. Sabine left about five hundred bound volumes and two hundred and fifty pamphlets, monographs, theses, etc., to the institution, and these have lately been arranged in a separate case placed in a conspicuous part of the library and surmounted by a panel, upon which may be seen in gilt lettering the name of the donor and the date of the gift. More than this, the books, which are largely upon anatomy and kindred branches, have been catalogued and indexed by Mr. J. Vandervoort, the son of the venerable librarian, who has classified the works by title, by subject, and by author, and has had this catalogue excellently type-written and neatly bound in a separate and convenient volume of reference. On the 4th inst. word was received at the library that the late Professor John Call Dalton also had bequeathed about a hundred and fifty volumes to the library, consisting mostly of works on physiology. They thus supplement admirably the collection of volumes given by Professor Sabine. The library as a whole has become so valuable that the steps recently taken by the governors of the hospital to provide for its establishment in a new fire-proof building to be constructed on the adjacent lot on the east side of the one it now occupies on West Sixteenth Street will be watched with solicitude by all interested in the safety of this invaluable collection.

### MEDICAL PRACTICE IN MONTANA.

We have received a copy of a bill that has been introduced into the Legislative Assembly of the Territory of Montana by Dr. H. D. Pickman, member for Beaverhead County, to regulate the practice of medicine in the Territory. It provides for the appointment of an examining board by the Governor, to consist of seven "learned, skilled, and capable physicians." This board is to certify to the genuineness of diplomas, and to examine applicants who have no diploma and have not been in continuous practice in the Territory for ten years or more. A certificate granting the right to practice can be issued only with the consent of not fewer than four members of the board, and it may be refused or revoked for unprofessional, dishonorable, or immoral conduct. Every applicant who receives the board's certificate must have it registered in the office of the Recorder of his or her county within sixty days of its date. The act does not apply to skilled midwives, to medical officers of the army or navy in the discharge of their official duties, to consulting practice by physicians living out of the Territory, to practice by students under the direct supervision of a preceptor, to gratuitous services in cases of emergency, nor to the practice of dentistry.

### THE AMERICAN PUBLIC HEALTH ASSOCIATION.

The local committee of this association is making preparations already for the Brooklyn meeting in October next. It has been decided to introduce, for the first time in many years, an annex for the exhibition of sanitary appliances, life-saving apparatus, and improved food products. One excursion only will probably be provided—namely, an inspection of the Quarantine establishment in New York harbor. The chairman of the committee is Dr. J. H. Raymond, of the Hoagland Laboratory, Brooklyn. A large influx of new members from the metropolitan district is invited and expected.

### THE OCCASIONAL OCCURRENCE OF SCURVY.

Scurvy is so little known in modern times that a naval surgeon of the writer's acquaintance was ten years in the service before he encountered a well-marked case. It will occur, however, under a display of gross negligence. A scurvy-laden vessel was recently discharged at Brooklyn which had been five months in making the voyage from Calcutta. After the first thirty days the crew had only salted food, and they all became affected with scurvy of the dropsical variety; one death was in part attributable to this cause. The greatest difficulty was experienced during the latter part of the passage, and the ship and cargo were in jeopardy more than once, because only a small number of the sailors could stand upon their feet long enough to do duty.

### THE CONTAGIOUS DISEASE HOSPITAL IN BROOKLYN.

Brooklyn has hitherto been peculiarly deficient in accommodations for cases of contagious disease. The county buildings included one wretched structure for the reception of persons with small-pox, familiarly known as the "pest-house," and this was outside the city limits, at Flatbush. The Board of Health has at last obtained a grant which will admit of the construction of three pavilion wards—one for small-pox, one for scarlet fever, and one for diphtheria. The appropriation for buildings amounts to $65,000. Private apartments for the reception of those sick with infectious disease, and desiring to pay for special privileges, form a part of the plan.

### THE AGNEW MEMORIAL FUND.

In another part of this number of the Journal we print a statement concerning the enterprise of adding to the capacity and field of work of the Manhattan Eye and Ear Hospital by means of a fund to be raised and to be known as the Agnew Memorial Fund. In view of the late Dr. Agnew's great services to the community, in a large measure unrequited save by the consciousness of doing good, it is surely to be expected that those from whom subscriptions may be looked for will be more than commonly ready to respond handsomely from the consideration that, besides increasing the capabilities of an excellent institution, they are contributing to perpetuate the memory of a man who deserved to be remembered alike for his professional achievements and for his worthiness as a citizen.

### THE NEW YORK ACADEMY OF MEDICINE.

We lately published a statement setting forth the fact that the Academy was still in need of some thousands of dollars to enable it to acquire the title to the property decided upon for the site of its proposed new building. We learn that $25,000 more are still required to pay for the land and to put up a fire-proof building. Subscriptions to meet this amount are in progress, and we would urge those of our readers who take an interest in the matter to take part in making up the sum. The purchase of neighboring lots by the Century Club and the prospect that other societies will buy land in the same block make the Academy's choice of locality more advantageous than was at first supposed and the investment proportionally better.

### ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 9, 1889:

| DISEASES. | Week ending Apr. 3. | | Week ending Apr. 9 | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 8 | 5 | 8 | 0 |
| Scarlet fever | 446 | 62 | 442 | 59 |
| Cerebro-spinal meningitis | 4 | 3 | 4 | 4 |
| Measles | 134 | 12 | 171 | 15 |
| Diphtheria | 171 | 54 | 210 | 50 |

**The Health of New York City.**—During the four weeks ending Tuesday, April 9th, the following numbers of cases and deaths from infectious diseases were reported to the Sanitary Bureau of the Health Department: Typhoid fever, 32 cases and 10 deaths; scarlet fever, 1,710 cases and 228 deaths; cerebro-spinal meningitis, 12 cases and 8 deaths; measles, 678 cases and 66 deaths; diphtheria, 739 cases and 189 deaths; small-pox, 1 death.

**The Contagiousness of Tuberculosis in Man.**—At a recent meeting of the Board of Health of the Health Department of the City of New York the following resolution was passed: *Resolved*, That Dr. T. M. Prudden, Dr. H. M. Biggs, and Dr. H. P. Loomis, the pathologists of this department, be and are hereby requested to formulate a brief and comprehensive statement regarding the contagiousness of tuberculosis in man, stating therein the evidence of the same, and recommending in the briefest possible manner practicable the simplest means of protection from its influence.

**A Portrait of Dr. Abraham Jacobi** was presented to the New York Academy of Medicine on the 4th inst. The presentation speech, on behalf of the subscribers, was made by Dr. Augustus Caillé.

**The Brooklyn Hospital.**—A competitive examination to fill two positions on the resident staff will be held at the hospital on Saturday, April 20th, at 2 P. M. The terms of service will begin at once and expire on March 31 and September 30, 1890, respectively.

**The Philadelphia Maternity Hospital.**—Dr. Louise G. Rabinovitch has been appointed resident physician to the hospital.

**Dr. Prince A. Morrow,** who has been absent for some weeks in Mexico and the Sandwich Islands, for the purpose of making personal observations of leprosy, to serve as the basis of a report before the International Congress of Dermatology and Syphilography, to be held in Paris, August 5 to 10, 1889, has returned to New York.

**The Medical and Chirurgical Faculty of Maryland** will hold its ninety-first annual session in Baltimore on the 23d, 24th, 25th, and 26th inst. Professor William Osler, of the Johns Hopkins University, will deliver the annual address, on "The License to Practice, with special reference to State Boards."

**Dr. L. Harrison Mettler,** lecturer on mental and nervous diseases and electro-therapeutics in the Medico-chirurgical College, of Philadelphia, sailed for Europe on Wednesday, the 10th inst., to pursue a course of special study.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from March 31 to April 6, 1889:*

Alden, Charles H., Lieutenant-Colonel and Surgeon; McElderry, Henry, Major and Surgeon; Matthews, Washington, Captain and Assistant Surgeon; and Merrill, James C., Captain and Assistant Surgeon, are detailed as members of the Army Medical Board to meet in New York city, May 1, 1889. Par. 5, S. O. 74, A. G. O., March 30, 1889.

By direction of the Secretary of War, the following changes in the stations and duties of officers of the Medical Department are ordered:

Gibson, Joseph R., Major and Surgeon. Relieved from duty at Fort Lyon, Colorado, and ordered to Fort Sheridan, Illinois.

Appel, A. H., Captain and Assistant Surgeon. Relieved from duty at Fort Sheridan, Illinois, and ordered to duty at Fort D. A. Russell, Wyoming.

Torney, George H., Captain and Assistant Surgeon. Relieved from duty at Fort Monroe, Virgina, and ordered for duty to Fort Brown, Texas.

Robinson, Samuel Q., Captain and Assistant Surgeon. Relieved from duty at Fort Brown, Texas, and ordered to Fort Hamilton, New York, for duty. Par. 11, S. O. 77, A. G. O., Washington, April 3, 1889.

Black, Charles S., Captain and Assistant Surgeon, is, by direction of the Secretary of War, granted leave of absence for six months, to take effect after the arrival at Fort Sidney, Nebraska, of Acting Assistant Surgeon Robert P. Finley. Par. 14, S. O. 78, A. G. O., Washington, April 4, 1889.

Ball, R. R., Assistant Surgeon. Ordered to Fort Riley, Kansas, for duty. S. O. 36, Headquarters Department of the Missouri.

Johnson, R. W., Assistant Surgeon, reports departure for Whipple Barracks, Arizona Territory, March 25, 1889.

**Society Meetings for the Coming Week:**

Monday, *April 15th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Medico-chirurgical Society of German Physicians; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *April 16th:* Medical Society of the State of North Carolina (Elizabeth City); New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and Westchester, N. Y.; Ogdensburgh Medical Association; Passaic, N. J., County Medical Society (annual); Baltimore Academy of Medicine.

Wednesday, *April 17th:* Medical Society of the State of California (San Francisco); Medical Association of Georgia (Macon); Medical Society of Mississippi (Jackson); Northwestern Medical and Surgical Society of New York (private); Harlem Medical Association of the City of New York; New

Jersey Academy of Medicine (Newark); Windham, Conn., County Medical Society (annual—Plainfield); Middlesex, Mass., South District Medical Society (annual—Waltham); Philadelphia County Medical Society.

Thursday, *April 18th:* New York Academy of Medicine; New Bedford, Mass., Society for Medical Improvement (private); Tolland, Conn., County Medical Society (annual).

Friday, *April 19th:* Chicago Gynæcological Society; Baltimore Clinical Society.

Saturday, *April 20th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

## Letters to the Editor.

### A CASE OF PROLONGED GESTATION.

West Bay City, Mich., *March 24, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: I take the liberty of reporting a case of prolonged gestation, thinking it may be of interest to some of your many readers.

Mrs. B., aged twenty-six years, in excellent health, was married on the 28th day of March, 1888. Excitement brought on the menstrual flow on the same day, one week earlier than expected. She had always been regular. The flow continued for five days. On the 14th of April she consulted me regarding her condition, relating her symptoms as dizziness, faintness, and squeamishness of the stomach, more particularly on first arising in the morning, but she did not vomit food till the latter part of June. She felt a sense of numbness in the upper and lower extremities. I diagnosticated the case as one of pregnancy. She did not menstruate again. She felt life on the 22d of August, and gave birth to a girl, weighing 12½ pounds, on the 18th of February, 1889, at 10 p. m. The os had been dilated to the size of a 25-cent piece for two weeks previous to her confinement, and she suffered a great deal of pain in the back and anteriorly for two months previous.

Reckoning her period of gestation from the advent of the symptoms, April 7th, to February 18th, both included, makes 318 days. D. A. McTavish.

## Proceedings of Societies.

### NEW YORK NEUROLOGICAL SOCIETY.

*Meeting of March 5, 1889.*

The President, Dr. George W. Jacoby, in the Chair.

**Hemiplegia with Unusual Associated Movements.**—Dr. B. Sachs presented Case No. II, occurring in a child, which he had described at the last meeting of the society. The associated movements of the paralyzed hand in this case were remarkably similar to the voluntary movements made by the sound side, even to the minute reproduction of the process of buttoning the clothes, etc.

**Focal Lesions of the Temporo-sphenoidal Lobe, with Symptoms of Forced Movements.**—Dr. Charles L. Dana reported two cases. The first was a case of abscess of the right temporal lobe, occurring in a woman of thirty-two years. It resulted from a fall on the head, and developed slowly in the course of two years. The notable symptom, aside from headache and a hysterical mental state, was sudden forced movements, causing the patient to fall backward and to the right. She was continually falling out of bed on the right side, and would sometimes perform *manège* movements. She had died suddenly. The autopsy had shown an old circumscribed abscess of the third and fourth right temporal convolutions, with a recent hæmorrhage into the cavity, bursting into the lateral ventricle.

The second case was one of focal meningo-encephalitis, causing deep and extensive softening of the second and third right temporal convolutions. The patient, a man of forty, had been brought into the hospital in a condition of delirium. A history had been obtained of an apoplectic stroke a year before. Since then he had had frequent attacks of dizziness and muscular twitchings, during which he would fall always forward and to the right.

A third case of abscess of the right temporal lobe, recently reported in the "Provincial Medical Journal," was cited, in which the patient had frequently staggered to the right.

Physiologists had found a number of parts of the brain irritation of which caused forced movements—*e. g.*, the cortex cerebri, the basal ganglia, the cerebellar peduncles, etc. Pathologists had found in cases of forced movements lesions chiefly in the cerebellar peduncles, especially in the middle; but there were a few observations showing such disturbances from lesions of the parietal lobes. It had been suggested that the temporal lobes contained representations of our sense of space and appreciation of changes in bodily position. It might be that the right lobe was especially concerned. There was some *a priori* probability that the vestibular or space-sense root of the eighth nerve and the cochlear or auditory root were connected with neighboring areas in the brain cortex. Anatomically it was known also that the temporo-occipital lobe was connected by a bundle of fibers with the pons nuclei and the cerebellum.

Dr. L. C. Gray said it was true that the auditory nerve subserved the senses of hearing and space, and it was quite true that deaf-mutes were never seasick, yet lesions of the temporal lobe thus far had produced only word-deafness. These were lesions of the first and second convolutions. We now knew that the auditory nerve had connections with the cerebellum. Such profound disturbances as existed in the speaker's cases were generally due to disease of the cerebellar peduncles or of the semicircular canals. Autopsies seemed to have excluded cerebellar lesion, but no mention was made of any examination of the internal ear to see if the canals were normal. The speaker referred to a case of his own with lesion of the temporal lobe with neither word deafness nor loss of equilibrium. If his conclusions were correct, he had opened up a new field in brain pathology.

Dr. Fisher described some of his recent experiments on dogs. Injury to the parietal or temporal lobes he had found to cause rotation to the side of the lesion quite as much as if the cerebellum was involved. These movements would last for several days. His researches, therefore, in an experimental direction would tend to corroborate Dr. Dana's clinical deductions. His operations were excision of the cortex in places, with more or less laceration.

Dr. Sachs thought the most important fact that Dr. Dana had sought to establish was the termination of the vestibular branch of the nerve in the fourth and fifth temporal convolutions, whereas other authors had located all auditory terminations within the first and second temporal convolutions.

Dr. Dana stated that he had made a gross examination of the internal ear, but had found no sign of inflammatory change. The cortical area for the cochlear branch would remain the same, but the district for the vestibular branch he believed to lie lower down in the temporal lobe.

**Localized Basal Meningitis and Double Optic Neuritis.**—Dr. W. M. LESZYNSKY then read a paper on this subject, and presented the patient (who had recovered) that had formed the basis of his article. He spoke at some length upon the value of ophthalmoscopic examination, and emphasized the importance of determining the presence or absence of optic neuritis in every case where headache and vomiting were of doubtful or obscure origin.

Dr. DAVID WEBSTER had seen the case detailed by Dr. Leszynsky a great many times, and had assisted in making most of the measurements. An important point in the case was that the patient never complained of his eyes, but of headache, and the double optic neuritis was only found upon examination. It was very rare to see such cases without complaint of the eyes on the part of the patients. He had seen many cases where vision had been and had remained perfect throughout the course of an optic neuritis, and others with partial or total blindness, but recovery of vision with the decline of the disease. Many patients did not know that their vision was defective. In this case vision had gone down at times to $\frac{2}{3}$ in each eye. It varied. He thought all patients with head and stomach symptoms ought to be submitted to an ophthalmoscopic examination.

Dr. GRUENING said that it was exceptional for a case of double neuritis to take the course that this had done. The termination was seldom so favorable. The prognosis was always bad. We could not be hopeful when we saw a case of optic neuritis. He had observed many cases in young people where the swelling had been enormous and yet it had disappeared. There was particularly great swelling in hydrocephalus internus. We might say that where there was a sudden and great increase of intracranial pressure there would be marked swelling of the optic disc. Recovery was not so rare in the optic neuritis at puberty or in the form sometimes occurring in septic fevers. He had recently seen a case of optic neuritis in a little girl who had suffered from scarlatina, diphtheria, and pertussis in succession, the eye disease following the pertussis. Recovery had taken place in a short time.

Dr. BIRDSALL had seen in several cases a decided degree of optic neuritis, yet with vision well preserved. These cases had been particularly in children. He felt with Dr. Gruening that the prognosis should be very guarded. He described in some detail a case of his own where optic neuritis had followed a blow upon the head, and where recovery had taken place. There had been no loss of vision.

Dr. GRAY thought it was impossible as a rule, in such a case as Dr. Leszynsky's, to make a diagnosis between a neoplasm and a meningitis. There was quite a number of cases where optic neuritis had appeared after exanthemata, and at the autopsy a tumor had been found. The fact of the occurrence of scarlet fever in this particular case would therefore give additional evidence in favor of a neoplasm. One should be very cautious in the prognosis.

Dr. J. E. WEEKS believed there were certain conditions of the discs which might lead to a favorable prognosis. If there was no hæmorrhage present and the discs were pale, the prognosis was much more favorable. He mentioned a case of Dr. Knapp's where there had been choked discs, and three neurologists in the city had diagnosticated tumor. The patient had, however, made a perfect recovery. He had observed optic neuritis after diphtheria, dysentery, measles, scarlet fever, etc. There were only three or four cases on record following diphtheria.

Dr. WEBSTER asked the reader of the paper how long after scarlet fever the optic neuritis had appeared.

The PRESIDENT said that the diagnosis of a circumscribed basal meningitis by Dr. Leszynsky in his case was unwarranted. He had seen Dr. Gruening's case of slight whooping-cough followed by optic neuritis with perfect recovery. In such a case a diagnosis of an intracranial growth could not be made. Another case that had come under his observation was that of a ten-year-old boy, in whom sudden blindness had developed while he was in apparently good health. There had been headache and optic neuritis, and two neurologists had made the diagnosis of a tumor. The patient had recovered. In the case that had just been detailed it was not justifiable to make a diagnosis of either meningitis or a tumor.

Dr. LESZYNSKY remarked that the causes of intracranial tumor in children could easily be summed up as syphilis, tubercle, and traumatism, of which there had been no history in his case. When the young man came to him he had typical cerebral vomiting and constant headache. The attack of scarlet fever had occurred fourteen months previously.

## NEW YORK CLINICAL SOCIETY.

*Meeting of February 22, 1889.*

Dr. W. H. FLINT in the Chair.

**Sporadic Cretinism.**—Dr. L. EMMETT HOLT presented a boy aged four years, born in this country, who showed almost all the symptoms typical of the disease. The parents were Swedes, healthy, well developed, and intelligent; no trace of any such condition in the family history upon either side could be learned of. The father was an artisan in comfortable circumstances. In the family there were two other children, one older and one younger than the patient, both of whom were reported to be in good health and well developed.

The patient was very short, measuring only thirty-one inches, and had a large head, open fontanelle, flat nose, thick lips, and open mouth. The hair was light, coarse, and straight. Behind the clavicle at the outer border of the sterno-cleido-mastoid muscles the characteristic fatty tumors were seen, nearly as large as a hen's egg. Fatty growths of a small size were also seen below the axilla on either side, and in the calves. The belly was pendulous, the ribs were slightly beaded, the epiphyses of the different bones were not enlarged, and the upper and lower extremities were very short, with stubby fingers and toes, but were straight. The thyreoid gland could not be felt. The boy could stand with assistance, but had never walked. When excited he made a peculiar crowing sound, somewhat resembling that heard in laryngismus stridulus, but without any dyspnœa. He was good-natured, but very backward in mental development, and seemed rather imbecile; he was just beginning to say a few words. He was well nourished, but suffered from habitual constipation.

There had never been any acute illness which could have any relation to the disease. The hair in early infancy had been dark and curly; when the boy was about a year old it had gradually become light and straight. The first teeth had appeared at the age of sixteen months. The cervical tumors had first appeared at eighteen months, and those in the axilla soon after. The former had grown slowly, but were now stationary. The axillary tumors seemed to be diminishing. The case was of interest from its rarity, from its typical symptoms, and from the absence of any ætiological factors which could be discovered.

The speaker remarked that the fatty tumors were not seen in endemic cretinism, and that the thyreoid gland was never enlarged in the sporadic variety.

**The Relations of Bacteria to Gastro-intestinal Diseases, especially in Infancy.**—Dr. Holt read a paper with this title. (See page 405.)

Dr. J. S. Thacher thought that experience had taught us more, on the whole, in relation to diet and treatment in intestinal fermentation than the results of bacteriological study had. Perhaps in the future some practical improvements might arise from the latter.

Dr. J. H. Emerson suggested that some of the old-fashioned remedies, such as the evacuants, were having their value explained by the modern studies on bacteria.

Dr. W. G. Thompson considered the science of intestinal medication as in great measure yet to be developed. The antiseptics given by the mouth were probably changed before reaching the intestine by the chemical action of the digestive fluids, besides being diluted to an extent we could not estimate with any accuracy by the volume of those fluids poured out in the successive stages of digestion.

Dr. M. A. Starr and Dr. Thacher had supposed that naphthaline was being used to counteract fermentation in the intestine, or, at least, that it caused some disappearance of bacteria from the fæces.

Dr. Holt said that he had abandoned the use of naphthaline about a year previously, on clinical grounds. Moreover, it had been found inert as regarded any power to check the growth of bacteria in cultivation fluids by both Vaughan and Baginsky.

Dr. H. M. Biggs agreed with the previous speakers that no direct light had been thrown as yet on the exact nature of the bacteriological activities which went on in the intestine; but still the general study of bacteria had given us many explanations of what might and in all probability did occur in the intestine in certain cases in consequence of the presence of bacteria. It seemed at least probable that there were three forms of disease arising in the intestine due, directly or indirectly, to the action of bacteria. In the first class of cases the disorder arose from the absorption of ptomaines formed outside the body and taken in with the food. In the second class it was due to saprophytic bacteria taken in with the food and causing it to ferment. In the third class it was caused by specific germs, which acted directly on the mucous membrane of the alimentary tract. In a certain asylum recently two thirds of the inmates had suddenly been seized with vomiting and diarrhœa, which had lasted from six to forty-eight hours. The weather at the time was very warm. Investigation had revealed that a certain quantity of meat afterward eaten by those who had been sick had by mistake been left outside the ice-house for two or three days, and had become badly tainted. This illustrated the first class of disorders. In the second and third classes the results represented the ratio between the tolerance (or resistance) of the individual and the dose of bacteria he took in; and, if the germs were taken in together with an excess of food, or with indigestible food, still more marked results would follow. As an apparent illustration of the former statement he would mention a case of sporadic cholera of peculiar causation which he and Dr. Prudden had studied together. A man who sold provisions to the Italians working on the Croton Aqueduct, who had previously been well, had been suddenly seized in the night with vomiting and purging, and had died in collapse in about twenty-four hours. There had been nothing in the history, so far as food was concerned, to account for the attack. The case had been reported to the Board of Health by competent physicians who were in attendance as Asiatic cholera. As this had been just after the epidemic of cholera among the Italian immigrants detained at quarantine in 1888, and after the release of these immigrants, additional significance had been attached to any symptoms suggesting cholera as strongly as they did in this case. At the autopsy the intestines had been found full of rice-water fluid similar to that which had been discharged, and in this fluid had been found almost pure cultivations of the *Bacterium coli commune*, but none of Koch's comma bacilli had been present. Apparently, then, this saprophytic bacillus, although normally present in the colon, might under certain unknown conditions become a cause of fatal disease.

He would give another excellent illustration of the relation of bacteria to intestinal diseases which had come under his notice during his service in the Almshouse Hospital on Blackwell's Island. During June and the first two weeks of July there had been an epidemic of dysentery among these adult patients, in which about a hundred cases had occurred and thirty deaths. He had been told that they always had dysentery there during the hot season. For that reason, apparently, nothing had been done toward preventing it. He had next discovered that the water-closet, or rather privy-vault, had not been cleaned out for a year, and at the time was four feet deep with semisolid fæcal matter, and that the outlet of the drain was almost choked with old clothes that had been thrown into the vault. He had had the vault emptied and cleaned, and thereafter flushed out daily, with the surprisingly good result of not having another case of fatal dysentery so long as these sanitary measures were kept up. In about ten days the disease had almost entirely disappeared. However, they had stopped flushing the vault, he had learned, after his term of service had expired, and in September dysentery had again appeared in the wards.

Dr. Holt remarked that the experiments of Baginsky seemed to show that the fermentation caused by the *Bacterium lactis aerogenes* might become pathological if it exceeded normal limits. The *Bacterium coli commune* had been found by Booker to be less abundant in diarrhœal than in healthy stools, while in dysenteric stools it was absent altogether. The speaker had purposely omitted all reference to the use of antiseptic drugs; the subject was a complex one, and too large to be considered within the limits of the paper. He considered that at present the most scientific treatment, and the one most successful in practice, was that directed against the bacteriological processes going on in the intestines. This must be carried out in its fullest and widest sense, reference being always had to the conditions of soil present. Failure in the past had resulted largely because lesions had not been taken into account. These were sometimes produced with great rapidity.

Dr. W. H. Flint took a favorable view of the value of internal antiseptics, both in the stomach and in the intestines. His experience had been chiefly among adults.

**A Review of Several Obscure Cases of Illness.**—Dr. J. E. Winters read a paper thus entitled. (It will be published hereafter.)

**Primary Carcinoma of the Pancreas.**—Dr. W. Gilman Thompson read a report of such a case. (See page 407.)

**Knots at the Bottom of Deep Cavities.**—Dr. C. D. Scudder exhibited a simple instrument designed to facilitate the tying of a knot at the bottom of a deep and narrow wound. It consisted of a slender metal rod, forked at the end into two flaring branches, whose smooth ends were turned outward and contained eyelets. A knot being made around the shank of an artery forceps, the ends of the ligature were to be passed through these eyelets and retained in the fingers of the operator while the knot was slid down the shank of the forceps and on to the tissue in its grasp. By pulling on the ends the knot could then be drawn as tight as might be desired. The prong of the fork could be held so as to tie a knot as accurately as if the fingers were at the bottom of the cavity and unencumbered.

## JEFFERSON COUNTY, ALABAMA, MEDICAL SOCIETY.

*Meeting held at Birmingham, March 15, 1889.*

Dr. W. E. B. Davis in the Chair;

Dr. George S. Brown, Secretary.

**Epicystotomy for the Establishment of Permanent Epicystic Fistulæ.**—Dr. J. D. S. Davis reported the histories of two cases, as follows:

Case I. *Prostatic Vesical Calculus; Hypertrophy of the Prostate; Chronic Vesical Catarrh; Suprapubic Lithotomy.*—H. H., a very large man, fifty-seven years of age, a watchmaker by trade, an American, had been a sufferer from enlarged prostate for seven years. For five years he had had a frequent desire to urinate, and for the past two years frequent painful priapisms, and had been obliged to draw his urine every hour or two. About December 1st he had applied to the speaker for treatment for enlarged prostate. Thorough examination had revealed an enlarged prostate, which pressed out the perinæum and also against the rectum. Analysis of the urine had revealed evidences of vesical catarrh. His urethra had admitted a No. 32 French sound to the prostate; the prostatic urethra had admitted a No. 11 French sound. An examination had been made for stone with negative results. Afterward electrolysis had been employed four times with good results, as the prostate had been wonderfully reduced.

On January 20th, during the use of electrolysis, a stone had been detected with the electrode. Examination with the searcher in the bladder had given negative results; but when the end of the searcher had been applied to the prostatic urethra, as the electrode in the use of electrolysis, a stone had again been felt. From this the speaker had concluded that he had a prostatic stone to deal with, and he had advised epicystotomy with the view of creating an epicystic surgical fistula for the relief of the prostate and the vesical catarrh.

He had operated February 3, 1889, after the plan of Dr. Hunter McGuire, of Richmond, Va.—viz.: The rectum had been inflated by means of a rectal colpeurynter, which pushed the bladder up above the pelvic brim; the bladder washed out by the injection of sterilized water, and then filled with two ounces and a half of water, secured by a rubber tube at the base of the penis. A three-inch-and-a-half incision through the skin and superficial fascia had then been made above the symphysis pubis after shaving and thoroughly washing the parts. The recti muscles had then been separated with the handle of the knife. The transversalis fascia had been divided on a grooved director, from the symphysis to within an inch of the upper margin of the superficial wound. The bladder had been caught through the prevesical fat with a tenaculum on a line with the pubes and the bladder, and by one smooth incision he had cut through the prevesical fat, to prevent extravasation of urine. He had found a phosphate-of-lime calculus weighing five hundred and twenty grains lying securely in its prostatic nest, between the prostatic urethra and the rectum, and slightly protruding into the viscus, which had been extracted and the bladder thoroughly washed out with sterilized water.

The superficial wound had been so closed by two stitches at the lower margin and one at the upper as to leave a fistulous tract of equal size, extending from the bladder to the juncture of the middle and upper thirds of the superficial wound. The wound had been kept dressed by repeated applications of absorbent cotton to catch the outflowing urine. The patient, who was shown to the society, had entirely recovered. The urine was normal in every respect. The bladder was perfectly under the control of the patient, and there was no dripping of urine. He could throw his urine several feet from his body when standing up, or eighteen to twenty inches from the abdomen when lying down. The painful priapism was replaced by an occasional sexual desire which was in every respect normal.

The best eulogy the speaker could pay to the results of the fistula in this case was the presence of the man who had been operated upon, whose bladder was capable of retaining sixteen ounces of urine, and who could carry his urine for five or six hours with no inconvenience.

Case II. *Chronic Vesical Catarrh; Epicystotomy; Recovery.*—T. H. N., aged forty-two years, a traveling man, an American, gave a history of having had cystitis for twenty-two years. He had been operated on for stricture by Dr. Mastin, of Mobile, in 1886, with good results, so far as relief of the stricture was concerned. The urethra admitted a No. 36 French sound. The urine had to be drawn every twenty or thirty minutes with a catheter. The capacity of the bladder without an anæsthetic was two ounces and a half. Urine sediment, 75 per cent. mucus. Constant vesical tenesmus. The patient was in the habit of taking ten grains of morphine daily, hypodermatically.

When the speaker had first seen the patient he had a temperature of 104° F., his pulse was 140, and his general aspect was that of a man rapidly sinking. His extremities had been literally covered with abscesses, due to repeated hypodermatic injections of morphine. Epicystotomy had been advised by the speaker with the promise of a permanent epicystic fistula for constant and permanent drainage. He had operated February 13, 1889, in presence of Dr. W. E. B. Davis, Dr. Ransom, Dr. Brown, Dr. Pouncy, Dr. Abenathy, and Dr. Douglass, by perpendicular incision as in the case of Mr. H. Intravesical exploration through the opening had revealed a small abscess in the trigonum, which had been opened and the pus evacuated. The bladder had been washed out with sterilized water, and the wound closed and dressed as described in the previous case.

The patient had experienced immediate and complete relief from the day of the operation. The bladder had been washed out daily with sterilized water by means of a fountain syringe with the nozzle in the urethra and the water escaping through the fistula. No more abscesses, fever, or tenesmus had occurred, and the bladder capacity was now twelve ounces. The amount of morphine taken had been reduced to a quarter of a grain every four to seven hours.

This case illustrated what drainage would do in an inflamed paretic bladder when the urethra was in itself complete.

Dr. Chew said that this was the first operation of the kind he had ever seen. The question had arisen in his mind as to whether or not this had been a prostatic stone, owing to its large size. He had also noticed, from rubbing a portion of this stone between his fingers, that it was principally *mineral matter*, when it seemed to him that such stones should be animal matter. He thought thorough drainage a most scientific procedure. He agreed with Dr. Davis that the suprapubic was the best operation.

Dr. Griggs asked Dr. Davis if he would perform the high operation for stone or cystitis in a woman.

The Chairman said he thought the operation the ideal one for thorough drainage of the bladder, and that, aside from the formation of a permanent fistula, he thought in a few years suprapubic lithotomy would be the accepted operation. He had seen the suprapubic operation done several times, had performed it himself, and considered it simple in execution and almost devoid of danger.

Dr. Davis said, in reply to Dr. Parke, that he would always perform the medio-lateral operation for stone in the bladder when there was but little catarrh and no paresis. In reply to Dr. Chew, he said it was a fact that analysis of the stone had revealed its true nature, as described. The stone was secondary phosphate of lime, the result, no doubt, of a preceding prostatic fissure or abscess. In reply to Dr. Griggs, he said he would not perform suprapubic cystotomy for stone in women, as the vagina afforded every advantage. In reply to the chairman, he said he did not agree with him as to the final and early adoption of the high operation for stone. It was not the ideal operation for stone in the bladder where permanent after-drainage was unnecessary, but only in cases where intravesical treatment and drainage were necessary to complete comfort and relief.

The dangers of the operation, with ordinary care, were *nil.* It provided an opening into the bladder for cystoscopic exploration in after-troubles. With the endoscope through the epicystic fistula, the surgical electric light could be made to illuminate the entire intravesical wall while a current of clear fluid might be passing through. It secured permanent drainage in prostatic hypertrophy, as shown by Dr. Hunter McGuire, in serious vesical catarrh, in vesical resection, and in malignant tumors, and, in fact, was the best method of draining the bladder for any cause. He had made frequent incisions into the bladder for drainage of the prostate and bladder, but in no instance had he been rewarded with such good results as he had attained by the epicystic surgical fistula. There was no doubt, in his opinion, that epicystic surgical fistula had a great future for cystoscopic explorations, intravesical treatment, and drainage.

**Idiopathic Erysipelas.**—The CHAIRMAN reported the history of a case occurring in a woman ten days after the removal of an ovarian tumor. The patient was forty-eight years of age, and had been operated upon in the pay wards of the Birmingham Hospital soon after the opening of the hospital, and before there had been any cases of contagious disease in the wards. The inflammation had begun in the face and had extended over the entire body, the wound in the abdomen being the last part involved. The operation had been done antiseptically, and a dressing of iodoform, boric acid, and absorbent cotton applied. The patient had given a history of having had five or six attacks of facial erysipelas when a girl. He thought the disease in this instance had had no connection with the abdominal section; as the wound in the abdomen had entirely closed, without a trace of pus, before the erysipelas appeared on the face, and since the wound had been the last place attacked by the disease, there could be no doubt about his diagnosis. The patient had made a rapid recovery, and had left the hospital a month after the operation.

## Book Notices.

*Diseases of the Heart and Circulation in Infancy and Adolescence.* By JOHN M. KEATING, M. D., Obstetrician to the Philadelphia Hospital, etc., and WILLIAM A. EDWARDS, M. D., Instructor in Clinical Medicine and Physician to the Medical Dispensary in the University of Pennsylvania, etc. Illustrated with Photographs and Wood Engravings. Philadelphia: P. Blakiston, Son, & Co , 1888. Pp. 9 to 215. [Price, $1.50.]

THIS is a collection of papers that have appeared in the "Archives of Pædiatrics" for the past year. As they treat of a subject that receives but scanty attention in the text-books on diseases of children, the profession ought to feel grateful to the authors for presenting them in book form and thus putting them within easy reach of every practitioner.

The authors recognize the difficulty of a scientific classification of malformations. They have adopted the plan of placing them under two great headings: (1) The primary malformations; (2) their secondary effects.

Paracentesis in pericardial effusions is recommended in rare cases only. There are two points at which tapping may safely be done. One point is in the left costo-xiphoid angle, the needle to be pushed upward to the heart. The second point is at the fifth intercostal space, about where the apex should normally be situated.

Extensive rules are laid down for the administration of digitalis. The cumulative action of the drug, so long a bugbear to the profession, is not feared by the authors. They have never met with any instances of it in their experience. The infusion is given preference over all other preparations. The authors say nothing of the value of combining digitalis with a bitter tonic and a laxative, although most young subjects with cardiac affections requiring the use of digitalis suffer from gastric disturbances to a considerable degree.

The three concluding chapters are devoted to aneurysm, cardiac neuroses, and diseases of the blood. Two valuable photographs—one showing mitral insufficiency and the other mitral stenosis—are included in the book. Although the monograph is fairly comprehensive, the subject-matter is mostly of a practical nature, and not much space is allotted to questions of mere speculation. We can heartily commend the book to the profession and congratulate the authors upon the result of their efforts.

### BOOKS AND PAMPHLETS RECEIVED.

Surgical Bacteriology. By Nicholas Senn, M. D., Ph. D., Professor of Principles of Surgery and Surgical Pathology, Rush Medical College, Chicago, Ill. Philadelphia: Lea Brothers & Co., 1889. Pp. 17 to 270. [Price, $1.75.]

Massotherapeutics, or Massage as a Mode of Treatment. By William Murrell, M. D., F. R. C. P., Lecturer on Pharmacology and Therapeutics at the Westminster Hospital, London, etc. Fourth Edition. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. vi–236. [Price, $1.50.]

A Hand-book of Therapeutics. By Sidney Ringer, M. D., Professor of the Principles and Practice of Medicine in University College, etc. Twelfth Edition. New York: William Wood & Company, 1889. Pp. xi–524.

Hand-book of Physiology. By W. Morrant Baker, F. R. C. S., Surgeon to St. Bartholomew's Hospital, etc., and Vincent Dormer Harris, M. D. Lond., Fellow of the Royal College of Physicians, etc. Twelfth Edition. Rearranged, revised, and rewritten, and with Five Hundred Illustrations. New York: William Wood & Company, 1889. Pp. xi–784. [Kirke's "Hand-book of Physiology."]

Neurasthenia and its Treatment. By Dr. H. von Ziemssen. Antipyresis and Antipyretic Methods of Treatment. By Dr. H. von Ziemssen. The Tongue as an Indication of Disease. By Dr. W. H. Dickinson. On the Treatment of Cystic Goître. By T. M. Hovell, F. R. C. S. New Remedies for 1878 to 1888. By Dr. C. Cauquil. [Wood's "Medical and Surgical Monographs."]

Les maladies qui guérissent aux eaux d'Aix-les-Bains, et comment ils guérissent. Par le docteur J. Monard, de la Faculté de Paris, etc. Paris: A. Maloine, 1889. Pp. vi–7 to 86.

Lectures on the Errors of Refraction and their Correction with Glasses. Delivered at the New York Post-graduate Medical School, with Illustrative Cases from Practice, both Private and Clinical. By Francis Valk, M. D., Lecturer on Diseases of the Eye, New York Post-graduate Medical School, etc. New York and London: G. P. Putnam's Sons, 1889. Pp. xii–241. [Price, $3.]

The International Medical Annual and Practitioner's Index: a Work of Reference for Medical Practitioners. Edited by Alfred G. Bateman, M. B., R. S., Fancourt Barnes, M. D., N. Whitelaw Bourns, M. D., Alexander Collie, M. D., Hy. Dwight Chapin, M. D., Charles L. Dana, M. D., W. Radford Dakin, M. D., T. Stretch Dowse, M. D., W. H. Elam, F. R. C. S., E. Hurry Fenwick, F. R. C. S., J. Dundas Grant, M. D., J. Hutchinson, Jr., F. R. C. S., Robert Jones, M. D., W. Lang, F. R. C. S., James R. Leaming, M. D., Sir Morell Mackenzie, M. D., Kenneth Millican, M. R. C. S., A. W. Mayo Robson, F. R. C. S., Robert Saundby, M. D., J. W. Taylor, F. R. C. S., W. Walter, M. D., Watson Williams, M. B., Lionel Weatherly, M. D., Graham Wills, M. B., and Percy Wilde, M. D. Seventh Year. New York: E. B. Treat & Co., 1889. Pp. xx–520. [Price, $2.75.]

The same. Bristol, England: John Wright & Co.

Lectures on Nervous Diseases, from the Standpoint of Cerebral and Spinal Localization, and the Later Methods employed in the Diagnosis and Treatment of these Affections. By Ambrose L. Ranney, A. M., M. D., Professor of the Anatomy and Physiology of the Nervous System in the New York Post-graduate Medical School and Hospital, etc. Profusely Illustrated with Original Diagrams and Sketches in Color by the Author; carefully selected Woodcuts and Reproduced Photographs of Typical Cases. Philadelphia: F. A. Davis, 1888. Pp. xiv–778. [Price, $5.50.]

Du lavage de la vessie sans sonde à l'aide de la pression atmosphérique: ses usages—son application au traitement des cystites douloureuses. Par le Docteur J. M. Lavaux, ancien interne des hôpitaux de Paris, etc. Paris: G. Steinheil, 1888. Pp. 5 to 146.

De l'hémiplégie dans quelques affections nerveuses (ataxie locomotrice progressive, sclérose en plaques, hystérie, paralysie agitante). Par Mlle. Blanche A. Edwards, Docteur en médecine de la Faculté de Paris, etc. Paris: Lecrosnier et Babé. Pp. 7 to 168. [Publications du "Progrès médical."]

Handbuch der physiologischen Optik. Von H. von Helmholtz. Zweite umgearbeitete Auflage, mit zahlreichen in den Text eingedruckten Holzschnitten. Fünfte Lieferung. Hamburg und Leipzig: Leopold Voss, 1889. Pp. 321 to 400.

Report of a Case of Hystero-epilepsy in a Man. By Lewis H. Adler, Jr., M. D., Philadelphia. [Reprinted from the "Medical News."]

Report of a Case of Hysteria simulating Laryngismus Stridulus. By Lewis H. Adler, Jr., M. D., Philadelphia. [Reprinted from the "University Medical Magazine."]

Concerning Reflex Neuroses due to Eye-strain. I. Three Remarkable Cases of Reflex Neuroses due to Eye-strain. II. The Influence of Sexualism in Reflex Ocular Neuroses. By George M. Gould, M. D., Philadelphia. [Reprinted from the "Medical and Surgical Reporter."]

Address of Albert R. Baker, M. D., at the Opening of the Medical Department of Wooster University, Cleveland, Ohio, Wednesday, February 27, 1889.

The Insane in Foreign Countries. By William P. Letchworth, President of the New York State Board of Charities. New York and London: G. P. Putnam's Sons, 1889. Pp. xii–374. [Price, $3.]

Dreams, Sleep, and Consciousness. A Psychological Study. By George M. Gould, M. D. [Reprinted from the "Open Court."]

The Science of Successful Surgery. By John B. Roberts, M. D., Professor of Anatomy and Surgery in the Philadelphia Polyclinic, etc. (The Annual Address of the Philadelphia Academy of Surgery.) [Reprinted from the "Journal of the American Medical Association."]

Die neueren Methoden der Magenuntersuchung. Von Dr. Max Einhorn, Arzt am Deutschen Dispensary, New York. [Aus der "Medicinischen Monatsschrift."]

A Case of Dysphagia with Dilatation of the Œsophagus. By Max Einhorn, M. D., New York. [Reprinted from the "Medical Record."]

The Babies' Hospital. A Summer's Work. By Sarah J. McNutt, M. D., New York. [Reprinted from the "Medical Record."]

Transactions of the Dental Society of the State of New York. Twentieth Annual Meeting, Albany, N. Y., May, 1888.

The Relation of the Abdominal Surgeon to the Obstetrician and Gynæcologist. By A. Vander Veer, M. D., Albany, N. Y. [Reprinted from "Gaillard's Medical Journal."]

Nuevo proceder para la resección del cuerpo del maxilar inferior. Comunicación presentada al congreso médico de Barcelona de 1888. Por O. Rodolfo del Castillo-Quartiellerz, Doctor en medicina y cirujía, etc. Cordoba: Libreria y litografia del Diario, 1889.

Medicine in the Middle Ages. Extracts from "Le moyen age médical" of Dr. Edmond Dupouy. Translated by T. C. Minor, M. D. [Reprinted from the Cincinnati "Lancet-Clinic."]

## New Inventions, etc.

### RECENT IMPROVEMENTS IN URETHROSCOPIC APPARATUS.*

By William K. Otis, M. D.

Since the invention of the original urethroscope by Bozzini, of Frankfort, in 1805, insufficient illumination has been the obstacle toward the obviation of which the principal modifications of this instrument have been directed.

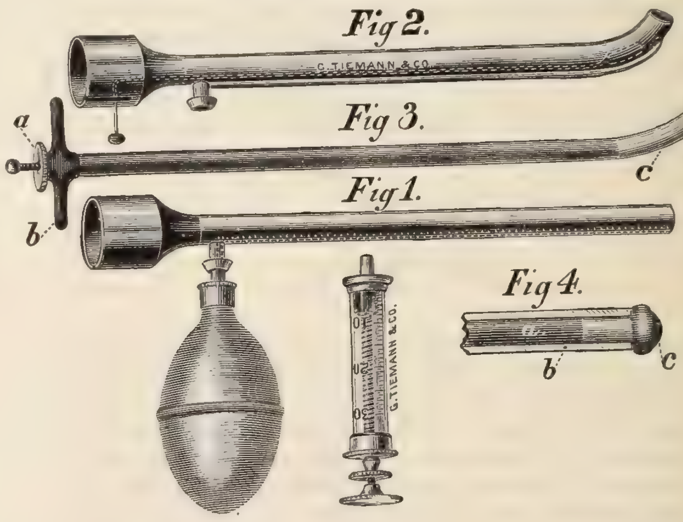
It is only recently, however, that this difficulty has been entirely overcome by the introduction of the electric light, and we now have an illumination of the urethroscopic field which is all that can be desired.

This advance has been largely due to the efforts of Josef Leiter, of Vienna, who has designed an instrument simple in construction, light and easily handled, inexpensive, and with the perfect illumination obtained by reflected electric light.

During all this time, from the invention of the original illuminating apparatus, little if any change has been made in urethroscopic tubes, though they have been constructed of various materials and borne various names. Glass, from its transparency, seemed especially adapted to this purpose, but, owing to the reflections from its surface and the changes produced by pressure on the mucous membrane, it is without practical value.

The discovery in 1870 of the great underestimation of the normal urethral caliber permitted the use of much larger tubes, with a corresponding increase in the size of the field; but the urethroscopic tube remained, and still remains, a simple straight tube.

Within the past year an ingenious instrument has been devised by von Antal, of Buda-Pesth, by means of which the urethra is seen distended with air. As the field is not greatly increased, and as an assistant is necessary, to make pressure in the rectum, thus preventing the entrance of air into the bladder, and as no applications can be made through this instrument, its practical use will probably be limited.



My own attempts to overcome some of the minor difficulties of urethroscopy have been directed, first, to avoiding the constant swabbing necessary, particularly when discharge or bleeding is present. To effect this, I have placed a small tube along the side of the urethroscopic tube to within an eighth of an inch of its lower end (Fig. 1). This tube pierces the urethroscopic tube at its upper end at a right angle, and ends in a socket. The small size of the inner tube prevent any practical interference with the size of the field. By attaching a small rubber bulb, which fits by a socket or sliding joint to the upper end of the small tube, pressure on the bulb (which is filled with fluid) covers the field with fluid, and a relaxation of the bulb sucks it perfectly dry, this being repeated until the field is seen to be washed clean. By substituting a hypodermatic syringe for the bulb, a graduated amount of a medicated solution may be placed with exactness on a cleansed surface. By this means the field is always under observation, which is not the case when the applications are made with the swab.

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* Read before the Surgical Section of the New York Academy of Medicine, November 12, 1888.

The deep urethra is frequently the seat of pathological changes which seem particularly adapted to treatment by means of the urethroscope, but, owing to the pain and discomfort to the patient occasioned by the passage of a straight instrument, and the inconvenience experienced by the surgeon in obtaining a satisfactory examination, also on account of the position of the instrument, a neglect of a visual inspection of this portion of the canal often results. To overcome this difficulty I have devised a tube having a curve on the lower end corresponding to that of the ordinary sound (Fig. 2). Upon withdrawing the obturator, a mirror fastened to a wire is slid down into the angle and a very excellent image of the end of the tube obtained. As it often happens that the mirror (if cold when first introduced) becomes clouded by the moisture of the urethra, it is well to warm it over a lamp, or wipe it over with a little glycerin, before introducing it.

Obturators constructed of rigid materials of necessity possess one of two faults. Either the edge of the tube is so thick that it forms a ridge about the end of the obturator, or, this ridge being removed to render the instrument perfect of introduction, the edges of the tube are left too sharp when the obturator is removed. Either of these conditions, while perhaps of not great importance in the examination of comparatively healthy urethræ, nevertheless often cause pain and, what is more important as regards the success of the examination, bleeding.

I have had constructed an obturator (Fig. 3) which consists of a hard-rubber shaft with a cross-bar (*b*) at the upper end, to prevent its slipping through the urethroscopic tube. Through this shaft runs a steel rod having a smooth hard-rubber tip (*d*) firmly fastened to its lower end, which loosely fits the urethroscopic tube. Between the tip and the hard-rubber shaft about half an inch of soft rubber is inserted (*c*), which is vulcanized to the hard rubber so that there is no inequality at the juncture. At the upper end of the central steel rod a screw thread is cut, on which runs a thumb-screw (*a*), which impinges on the cross-bar of the hard-rubber shaft. This obturator being introduced into the urethroscopic tube, a few turns of the thumb-screw approximate the tip and the lower end of the shaft, causing the soft-rubber interval between them to swell out over the edge of the urethroscopic tube and obliterate it. This obturator in position is shown in Fig. 4. I have also been able to adapt it to the curved instrument, where a well-fitting obturator is almost an essential for easy introduction.

In spite of the many and decided advances made in the urethroscope, its use has never been very general, nor is it ever likely to become so. In the treatment of gleet by means of the urethroscope the spots of granulation are easily observable and easily medicated, and frequently disappear under the use of the applications. But they almost inevitably lie behind strictures, are dependent for their existence on this fact, may be almost as definitely located with the bougie à boule as with the urethroscope, and are quite sure to return, sooner or later, unless the exciting cause is removed.

As regards the diagnosis of stricture, for which purpose some authors have given this instrument great credit, it is without value.

We judge a urethra is strictured simply because the tube will not pass some point in the canal; it gives no more information as to the caliber of the stricture, the extent of the stricture, its resiliency, or the existence of other contractions below it, than can be obtained by the use of its obturator alone.

False passages may occasionally be observed and avoided by its use. Foreign bodies, impacted stone, etc., are often more easily removed by this than by any other means. It is valuable in the detection and treatment of urethral chancroids, and invaluable in the removal of urethral neoplasms. But its successful use requires considerable technical skill, and a knowledge of the slight differences exhibited by pathological conditions of the urethral mucous membrane, only obtainable by long, careful, and patient study. So that, in spite of the very great improvements recently made in the urethroscope, it will probably continue to remain for the most part an instrument for the use of the specialist alone.

48 West Forty-ninth Street.

## Miscellany.

**The Health of Michigan.**—According to the State Board of Health's Report for the four weeks ending March 30, 1889, diphtheria was reported from twenty-nine places, scarlet fever from thirty-two places, typhoid fever from eight places, measles from twelve places, and small-pox from five places.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending April 5th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y..... | March 30. | 1,559,964 | 860 | .. | .. | .. | .. | .. | .. | 5 | 57 | 47 | 13 | 14 |
| Philadelphia, Pa.... | March 30. | 1,040,245 | 389 | .. | .. | .. | .. | .. | .. | 18 | 10 | 9 | 1 | 2 |
| Brooklyn, N. Y..... | March 30. | 814,505 | 390 | .. | .. | .. | .. | .. | .. | .. | 10 | 29 | 8 | 10 |
| Baltimore, Md...... | March 30. | 500,343 | 156 | .. | .. | .. | .. | .. | .. | 4 | 5 | 4 | .. | .... |
| San Francisco, Cal.. | March 22. | 330,000 | 106 | .. | .. | .. | .. | .. | .. | 1 | 2 | 1 | .. | .... |
| Cincinnati, Ohio.... | March 30. | 255,139 | 134 | .. | .. | .. | .. | .. | .. | 3 | .. | 3 | 2 | .. |
| Detroit, Mich....... | March 23. | 250,000 | 61 | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | 1 |
| New Orleans, La.... | ........ | ........ | ...... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newark, N. J....... | March 26. | 180,000 | 75 | .. | .. | .. | .. | .. | .. | .. | 1 | 6 | .. | .... |
| Providence, R. I.... | March 30. | 127,000 | 44 | .. | .. | .. | .. | .. | .. | 1 | . | 1 | .. | .... |
| Rochester, N. Y.... | March 30. | 125,000 | 42 | .. | .. | .. | .. | .. | .. | . | .. | 1 | .. | 2 |
| Richmond, Va...... | March 23. | 100,000 | 40 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Denver, Col......... | March 29. | 100,000 | 20 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Toledo, Ohio ....... | March 29. | 80,000 | 23 | .. | .. | .. | .. | .. | .. | .. | . | 1 | .. | .... |
| Nashville, Tenn..... | March 30. | 65,153 | 24 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Fall River, Mass.... | March 30. | 65,000 | 23 | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .... |
| Lynn, Mass.......... | March 30. | 50,000 | 17 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Manchester, N. H... | March 23. | 42,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me ....... | March 30. | 42,000 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Davenport, Ia....... | March 23. | 33,715 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| E. Saginaw, Mich... | March 30. | 33,000 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa......... | March 23. | 30,000 | 14 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Newport, R. I....... | March 29. | 22,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newton, Mass...... | March 30. | 21,553 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Keokuk, Ia.......... | March 23. | 16,000 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Pensacola, Fla...... | March 23. | 15,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**The Agnew Memorial Fund.**—The committee on the C. R. Agnew Memorial Fund of the Manhattan Eye and Ear Hospital have issued the following circular:

The suffering which the Manhattan Eye and Ear Hospital relieves can only be dealt with by skill and care under the most favorable circumstances. The usefulness of the institution is widely recognized. In the death of Dr. C. R. Agnew it lost its earliest and best friend, who gave to it, besides his marvelous professional skill, every possible form of needed service. The directors propose, as a fitting memorial of Dr. Agnew, to extend the capacity of the hospital for usefulness by raising an endowment fund, to be called the "C. R. Agnew Memorial Fund," the income of which shall be applied to the running expenses of the hospital. Could any monument more fittingly recall his unselfish services to his fellow-men? If he could be consulted, is there any expression of affectionate regard that he would so much appreciate? It is believed that there are many of his friends who would gladly contribute to this fund, to mark their sense of his own generous nature, and to aid an institution which he founded and cherished with self-denying care. It is hoped that a sum of $100,000 may be secured, which would not only be a fitting memorial of him, but also go far toward enabling the hospital to carry on with ease its constantly increasing work.

It was for many years the anxious wish of Dr. Agnew that the hospital should, for its own protection, and as a means of extension in the future, purchase the property immediately in its rear, now used as a livery stable, and which is liable to become very objectionable and detrimental to the health of the inmates of the hospital. The directors feel that the time has now come for fulfilling Dr. Agnew's long-cherished desire, and have decided to make the purchase, and to apply so much of the "C. R. Agnew Memorial Fund" as may be required in paying for its cost. It is confidently believed that the investment will yield a net income of five per cent. per annum, until such time as the needs and means of the hospital may justify the employment of the property for hospital purposes.

The directors suggest that small subscriptions will be acceptable as well as large, and that all payments can be made to suit the convenience of subscribers. A form of bequest accompanies this circular, to guide those who prefer this mode of giving.

Contributions may be sent to Mr. Charles Lanier, Treasurer, 17 Nassau Street, New York.

## THERAPEUTICAL NOTES.

**Hydrastis Canadensis.**—In a recent number of the "Lancet," Dr. Felsenburg, of Vienna, is said to recommend highly the local use of the fluid extract of *Hydrastis canadensis* in chronic pharyngitis, whether accompanied with enlargement of the tonsils or not, and also to suggest that similar treatment might prove successful in chronic inflammatory affections of other mucous membranes. [That it has thus proved successful is abundantly set forth in Bartholow's "Materia Medica and Therapeutics."]

**Peppermint-water in Pruritus Pudendi.**—In an article published in the "British Medical Journal" for April 14, 1888, and quoted in a recent number of the "Medical Chronicle," Dr. Amand Routh advocates the employment of peppermint-water as a lotion in pruritus pudendi. He suggests that for the sake of convenience the aqua menthæ piperitæ of the British Pharmacopœia, which is somewhat bulky, be concentrated, an object best attained by borax, in itself soothing and antiseptic. Patients can make their own lotion by putting a teaspoonful of borax into a pint bottle of hot water, adding five drops of oil of peppermint, and shaking well. The parts affected are to be bathed with a soft sponge. If the skin is unbroken, this lotion will remove the itching; otherwise, a preparation made of olive-oil and five grains of iodoform to the ounce should be used in its place. Peppermint-water gives the most permanent relief in the neurosal form, especially in the reflex pruritus of pregnancy. It is also efficacious in the pruritus which occurs at the climacteric or in elderly women, in whom it may be only part of a general pruritus, besides those cases of women of all ages when the urine becomes of a very low specific gravity without any evidence of their having a gouty or granular kidney as a remote cause. Peppermint excels all other drugs, cocaine not excepted, in cases due to pediculi, ascarides, an irritable urethral caruncle, an intracervical polypus, cancer of the cervix, distension of Bartholin's ducts or glands, the leucorrhœa of elytritis, endotrachelitis, and metritis, the irritating discharges of advanced carcinoma uteri, or a gouty or diabetic diathesis.

**Ball's Purgative Pills.**—The following formula, quoted from the "Répertoire de pharmacie," appears in the "Progrès médical" for February 23d:

| | | |
|---|---|---|
| Socotrine aloes | | $15\frac{3}{8}$ grains; |
| Resin of scammony,<br>Resin of jalap, | each | $7\frac{3}{16}$ " |
| Calomel | | $4\frac{1}{2}$ " |
| Extract of belladonna,<br>Extract of hyoscyamus, | each | $3\frac{4}{5}$ " |
| Almond-oil soap, a sufficient quantity. | | |

Divide into fifty pills. Dose, three to five pills a day.

**The Use of Yeast in Medicine.**—The "Union médicale" asserts that the idea of employing yeast in therapeutics is not new but merely revived by Dr. Herr, in an article which came out in the "Deutsche Medizinal-Zeitung" for September 27, 1888, with this exception, that Dr. Herr recommends large doses. Yeast was first used among prisoners and workmen as a cure for scurvy. The author attributes to it a controlling action upon fever.

**An Ointment for Burns.**—A recent number of the "Union médicale" gives Wendt's formula for a dressing intended to assuage the pain of burns of the first and second degrees, made of $30\frac{3}{4}$ grains of hydrochloride of cocaine, $261\frac{3}{8}$ grains each of lanolin and distilled water, and $61\frac{1}{2}$ grains of spermaceti. In such cases one may also paint the parts affected with a two-per-cent. solution of cocaine, and then smear them with an ointment containing $76\frac{7}{8}$ grains of carbolic acid for every $1460\frac{5}{8}$ grains of lanolin.

**A Santonin Idiosyncrasy.**—The "Practitioner" for February alludes to the observations made by Dr. Underwood, of Bombay, India, which were recorded in the "British Medical Journal," 1888, ii, p. 817, in regard to a general measles-like eruption and intense punctiform rash on the buccal and pharyngeal mucous membranes following within three hours after he had administered a five-grain dose of chemically pure santonin. No catarrhal or febrile phenomena were present. All the physiological symptoms characteristic of santonin subsided under alkaline treatment in forty-eight hours after their development.

## ANSWERS TO CORRESPONDENTS.

*No. 259.*—Our impression is that it has been done by Dr. Paul F. Mundé. Mr. Lawson Tait did it four times in his second thousand laparotomies, and one of the patients recovered.

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Original Communications.

# ON THE TREATMENT OF RUPTURE OF THE TENDON OF THE QUADRICEPS FEMORIS.*

By WILLIAM T. BULL, M. D.,
SURGEON TO THE NEW YORK HOSPITAL AND ST. LUKE'S HOSPITAL.

At a meeting of the society four years ago I presented a patient who had been treated by Dr. C. A. Jersey at the Chambers Street Hospital for ruptured quadriceps tendon by means of the gypsum bandage. Three months and a half after the accident the functions of the limb were practically restored, though flexion of the knee was possible only through three fourths its normal extent. Since then this deficiency has disappeared and the result is perfect. To-night I present a patient who has suffered a precisely similar injury, but in whom the separated ends of the tendon were united by suture. The following is a brief history:

J. H. W., aged fifty-nine, expressman. While backing a wagon, patient fell with the leg flexed. He felt something give way. Suffered extreme pain and was unable to walk. Was treated by rest and a posterior splint for three days, when he was admitted to St. Luke's Hospital, December 6, 1888.

Examination showed a depression above right patella admitting finger easily. Absolute loss of extension. Slight effusion into joint. Unnatural mobility of patella.

*December 14th.*—Patient etherized and an incision three inches long made from upper border of patella upward. Tendon found to be ruptured transversely a quarter of an inch above its insertion. The direction of the rupture was from behind forward and above downward, and the upper end, beveled in this way, was curled up on itself, leaving a gap half an inch wide on the surface. The rupture extended into the muscular fibers on either side of the tendon for a distance of two inches; the synovial capsule was freely opened, and a slight amount of bloody synovia found in the joint. The ends of the tendon were brought together with four catgut sutures, drainage was established, and the wound was closed. The parts were freely irrigated with 1-to-5,000 solution of mercury bichloride. An antiseptic dressing was applied and the limb immobilized by a plaster-of-Paris splint. The drains were removed on the seventh day and the splint was renewed. The wound healed with a trifling amount of suppuration about the superficial sutures.

*January 15th.*—Patient allowed to walk about on crutches. All splints removed.

*24th.*—Walks without crutches. Rheumatism has developed, affecting the foot of injured leg and the elbow of the opposite side.

*31st.*—He left the hospital. The contour of the ligament was natural, the patella movable, but the joint stiff, flexion being only possible to trifling degree. The ankle was swollen and slightly painful, which indisposed him to walk.

Nine weeks after the operation I examined him and found that he could flex the limb about thirty degrees, and from this point extend it completely and strongly. The ankle was slightly swollen and painful on walking, and has been a serious drawback in his efforts to move the knee, which presents no signs of rheumatic inflammation. There is reason to believe that the power of flexion will gradually increase.*

These experiences have excited my interest in the proper management of this injury, and especially in the question whether they should be treated by the older method of immovable apparatus and compressing bandages, or by prompt suture of the tendon by means of surgical operation. I have, with the kind assistance of Dr. Albert H. Leyton, late house-surgeon at Bellevue Hospital, made a careful search through the literature of the subject, and I hope that the information thus obtained, though to me unsatisfactory, may serve as a basis for discussion if not for the formulation of any definite conclusions.

The most complete study is an elaborate article by Maydl ("Ueber subcutane Muskel- und Sehnenzerreissungen," "Deutsche Zeitschrift für Chirurgie," xvii and xviii), who in 1883 collected sixty-one cases of this injury in connection with fractures of the patella and rupture of its ligament, all of which had been treated without operation. Of the sixty-one cases, twelve were ruptures confined to the muscular substance, and it is not clear which of these two classes of cases has contributed to the final statement of the result. There were, of these sixty-one cases, twenty-eight instances of complete healing—that is, with restoration of the functions of the muscle; in thirteen the recovery was incomplete; in thirteen it was not given; and the remainder, seven in number, were old cases. These data as to the outcome of the injury are certainly unsatisfactory, but they may be fairly said to prove that complete recovery occurs in about half the cases.

The same conclusion is reached by a consideration of the cases reported since 1883, or omitted from Maydl's table. Dr. Leyton has found fifteen instances of single and five of double rupture. Of the single ruptures, complete recovery took place in nine, in four it was incomplete, and the result was not stated in two. Of the five double ruptures, making ten in all, the result was not given in five; in four recovery was stated to be incomplete, and complete in one. It should be stated that under "complete recovery" are counted the cases which are so reported, or those in which "good recovery" is noted, as well as those accompanied by the definite statement that all the functions were perfect. Under the head of "incomplete recovery" are all those so expressed and those in which defects in flexion and extension were noted, and, moreover, those of patients who are said to be able to walk well on a level, but unable to go up and down stairs; and, finally, those described as "improved."

The time which has intervened between the injury and the statement of the results has varied so much that it has seemed wise to disregard it. It has varied from a few weeks to a year, and even more, and it should be mentioned that in several cases which have been examined at later intervals than three or six months there has been found a marked improvement in function. This is especially true as regards the stiffness of the joint, which limits the power

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* Read before the New York Surgical Society, February 27, 1889.

* Inspected three months after the operation; flexion to a right angle.

RUPTURE OF QUADRICEPS EXTENSOR TENDON.

| No. | Reporter. | Sex and age. | Date. | Manner of injury. | Lesion. | Treatment. | Result. |
|---|---|---|---|---|---|---|---|
| 1 | Stimson, "Medical News," 1883, xlii, p. 501.* | M., 58. | 1883 | 1873, slipped and fell; 1876, similar accident. | Rupture of right tendon at junction with patella; rupture of left tendon; loss of extension. | Posterior splint. | 1883, Jan., right knee joint suppurated; joint opened and drained; 6th month, motion good; left leg, 6th month, stiff. |
| 2 | Harriman, "Med. and Surg. Reporter," 1881, xlv, p. 81. | M., 50. | 1880 | Fell c'rrying heavy w'ght, which struck left knee, and attempting to save himself, fell backward. | Rupture of both tendons. | Posterior splints. | 16th week, "nearly as well as ever." |
| 3 | Essenbeck, Schmidt's "Jahrb.," 1880, vol. clxxxvi. | M., 50. | .... | Fall. | Rupture of both tendons. | Splint for three months. | |
| 4 | Blanc, "Lyon méd.," 1886, liii, p. 271. | M., 51. | 1883 | Fell backward, carrying heavy weight; similar accident one year later. | Rupture of right tendon; rupture of left tendon. | | |
| 5 | Phelps. | M., 75. | 1887 | 1882, fell; 1887, fell and struck side of left knee while leg was flexed. | Rupture of right tendon; rupture of left tendon; inner expans'n of cruræus intact. | Posterior splint; 12th day, plaster of Paris. | 26th day, flexion to 20°, but painful. |
| 6 | Jersey; reported by Bull, "N. Y. Med. Jour.," 1884, xxix, p. 367, and "Medical News," 1884, xliv, p. 367. | M. | 1883 | Left leg forcibly flexed. | Rupture of left tendon. | Plaster of Paris, two months; rubber bandage. | 3½ months; flexion to three quarters its normal extent; extension perfect and strong; 1889, Jan., function absolutely perfect in every respect. |
| 7 | F. H. Markoe. | M., 43. | 1888 | Struck just above patella. | Rupture of left tendon; lateral expansion intact; loss of extens'n. | Three weeks, posterior splint; four weeks, plaster of Paris. | Function almost completely restored; 1889, Jan., flexion and extension perfect. |
| 8 | Poore, "Med. Rec.," 1882, xxi, p. 579. | M., 65. | 1881 | Fell down stairs. | Rupture of tendon at attachment to patella. | Splint. | Flexion to three quarters its normal extent: 2½ in. of new tendon formed; 1889, Jan., flexion and extension perfect. |
| 9 | Keyes, "Med. Rec.," 1882, xxi, p. 579. | M., 78. | .... | Slipped and fell. | Rupture of tendon; lateral expansions not torn; loss of extension. | Elastic knee-cap. | Treated as a sprain for one month; walks perfectly, but can not raise himself with injured limb on going up stairs. |
| 10 | Devars, "Lyon méd.," 1887, liv, p. 499. | M., 56. | 1886 | Slipped and fell. | Rupture of left tendon. | Silicate splint for one month. | 4th month, flexion and extension good. |
| 11 | Michael, "Maryland Med. J.," 1884-'5, xii, p. 96. | M., 19. | .... | Fell from train and leg struck by car six or seven weeks previously. | Rupture of tendon; loss of extension. | ................. | Operation refused. |
| 12 | Bull. | M., 60. | 1886 | Tripped on stairs; felt something give way in knee, and fell down. | Rupture of right tendon; loss of extension. | Inclined plane; 10th day, plaster of Paris. | 2½ years later, flexion and extension perfect. |
| 13 | Bull. | M., 41. | 1884 | Fell down stairs. | Partial rupture of right tendon. | Posterior splint 9th day; plaster of Paris; used crutches 9 mos. | 7th week, some weakness; motion somewhat limited; 5½ years later, limb strong function good, except very extreme extension; thighs ½ to 1 inch smaller. |
| 14 | Bull. | M., 39. | 1876 | Fell down stairs. | Rupture of tendon. | Posterior splint 3 weeks, plaster of Paris. | Loss of extension; 1874, ruptured quadriceps tendon; wore silicate splint for 6 wks. |
| 15 | Gibbon, "Lancet," 1888, i, p. 1274. | M., 22. | 1887 | Kicked at foot-ball game; two wks. later stumbled and fell; walked two to three miles. | Rupture of tendon at its insertion. | Splint, 14 days; starch bandage, 6 weeks. | Good union, but some weakness. |
| 16 | Beck, "Lancet," 1880, i, p. 937. | M., 60. | 1880 | Slipped and heard a loud snap, and fell. | Rupture of right tendon just above patella; lateral expansions intact; slight extension of flexed knee. | Inclined plane; plaster, followed by posterior splint. | 56th day, ¾ inch interval between patella and ligament. |
| 17 | Rivington, "Med. Times and Gaz.," 1877, i, p. 613. | M., 62. | 1876 | Fell with leg flexed. | Rupture of left tendon. | Splint and knee-cap. | Good recovery. |
| 18 | Hulke, "Trans. London Clin. Soc.," 1879, xii, p. 1. | M., 36. | 1876 | Caught in turning machine, leg striking ceiling and floor. | Rupt. of tendon above patella, left; fracture of humeri, etc. | Extension and splint. | 3 months later, walked firmly and with but a slight limp. |
| 19 | Mason, "American Med. Times," 1861, ii, p. 226. | M., 51. | 1860 | Slipped, and felt something give way in knee. | Rupture of left tendon; loss of flexion and extension. | Splint. | 8th week, walked; 1 year later, no difference in two limbs, except some stiffness and pain after unusual exertion. |
| 20 | Johnson, "American Med. Times," 1861, ii, p. 388. | M., 46. | 1860 | Fell six feet three months previously; continued to work. | Rupture of left tendon; lateral expansions intact. | No treatment. | Good use of limb, except on going up or down stairs; depression above patella, and tendon had formed a new attachment to skin; partial ankylosis, so that leg could be only semiflexed. |

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* Dr. Gibney reports the same case in "N. Y. Med. Jour.," 1888, xxviii, p. 714.

SUTURE OF QUADRICEPS TENDON.

| No. | Reporter. | Sex and age. | Date. | Manner of injury. | Lesion. | Treatment. | Result. |
|---|---|---|---|---|---|---|---|
| 1 | McBurney, "Annals of Surgery," 1887, vi, p. 170. | M., 50. | 1885 | Struck by a heavy basket of linen. | Rupture near insertion, right leg. | Suture of tendon with catgut; retention suture of wire. | 11th week, walks with ease; flexion to right angle; 1 year later, function perfect. |
| 2 | Lüning, "Correspondenzblatt für schweizer Aerzte," 1881, ii, p. 689. | M., 18. | 1880 | Butcher's chopper fell on knee. | Tendon cut at insertion into upper border of patella; fracture of patella, right. | Suture of tendon with catgut. | 5th month, flexion to 120°. |
| 3 | Wilkin, "N. Y. Med. Jour.," 1887, xxix, p. 378. | M. | 1887 | Incised wound of thigh. | Dividing tendon; joint opened; right leg. | Suture of tendon with silkworm gut. | 3d month, flexion almost perfect; functions good. |
| 4 | Hartley. | M., 34. | 1888 | Slipped and fell. | Rupture of tendon; joint opened; left leg; fragment of patella ($\frac{3}{4}$ by $\frac{1}{2}$ in.) contained in ligament. | Suture of tendon; wiring of patella fragment. | 3d month, adhesion of patella to femur broken up by raspatory; 4th month, only slight power of extension. |
| 5 | Bull; reported in this article. | | | | | | |

of flexion, and equally so of the general strength of the limb, which is undoubtedly increased as the leg has freer motion at the knee and the exercise of the extensor muscle is promoted. The situation and extent of the rupture have not been given with such definiteness that one could tell what influence these features had on the final recovery, and we may accept Maydl's conclusion that the prognosis is more unfavorable the nearer the point of rupture to the patella. It is a matter of regret that only such general statements as to the final result can be given by even careful study of these twenty cases. The reports are too imperfect; and this further investigation leaves us where Maydl's tables did, six years ago, with the conviction, already expressed, that in about half the cases an imperfect result may be expected.

It would be advantageous for purposes of comparison if we had an equally large number of ruptures which had been treated by suture. But the operation has been rarely done. The first case I find recorded was reported to this society by McBurney in 1887 ("Annals of Surgery," vi, 170). The injury was caused by a heavy basket falling on the thigh. The tendon was ruptured near its insertion, and the capsule of the joint torn. The tendon was sutured with catgut and the joint cavity drained. Prompt healing of the wound followed, and at the end of three months the patient walked with ease and strength, but flexion was imperfect. At the end of a year the functions were completely restored (Case I, table). A second case has been reported to me by Dr. Hartley (Case IV of the table). Here the injury was caused by a fall. The tendon was ruptured at its insertion, a small fragment of the patella being found in its torn end. The joint capsule was torn. Suture of the tendon with wire was followed by satisfactory healing, but the patella became adherent to the femur, and the joint was stiff. At the end of the third month the adhesions were separated with the raspatory and forced motion was made. At the end of the fourth month there was good flexion, but the power of extension was deficient. It is, however, improving. The third case (Case V, table) is the one I have reported in full. Besides these there are two cases in which suture of the tendon has been done with catgut, for incised wound penetrating the joint, by Lüning and Wilkin (Cases II and III of the table). In Wilkin's case the result was reported at the end of the third month as "almost perfect," the only defect being a slight limitation of flexion. In Lüning's case, at the end of the fifth month it is said that the leg could be flexed to 120°, a result little short of perfect. In both these cases it may be assumed that further time would better the result.

These cases are too few to warrant our forming any conclusions as to the probable result of the immediate suture. But they demonstrate that the procedure has been thus far attended with no serious complications, such as suppurative synovitis. In one instance the recovery has been complete (McBurney's), and in the two others there is every prospect of improvement; while the suture in open wounds—a rather more complicated condition to manage, since there is more danger of infection from the instrument inflicting the injury as well as foreign matters from the clothing and the exposure to the air—has been wholly satisfactory.

In view, then, of the uncertain functional results of the older methods of treatment and the encouragement offered by these few cases, I should certainly deem it justifiable and desirable to resort to the suture at once in many cases of rupture of this tendon. Where the ends are widely separated—say, by an interval admitting two fingers—one might naturally expect a diminished power of extension caused by the elongation of the tendon. Where the joint capsule is distended, one may properly assume that extravasated blood is present, and its absorption and the accompanying synovitis may lead to fibrous ankylosis and lessened power of flexion. Cases that present either one or both of these conditions (and they will often co-exist) should be treated with suture at once. On the other hand, ruptures in which there is a trifling separation of the ends of the tendon—let us say up to the width of an inch, or a finger's breadth—as well as those in which there is no effusion into the joint, should be treated by fixing the limb on a posterior splint, or incasing it in plaster of Paris, after drawing down the muscle and fixing it by bandaging from above downward. The patient may begin to walk at the end of four weeks. If the stiffness or lessened flexion continues, it may be overcome by passive motion. If the power of extension is found defective after the quadriceps muscle has regained its activity, it will be due to elongation of the tendon, and a secondary suture of the tendon may then be undertaken.

# DYSPEPSIA

## AS REFLECTED IN THE MUCOUS MEMBRANE OF THE UPPER AIR-PASSAGES.*

By BEVERLEY ROBINSON, M. D.

It has long been a view to which I have clung with great tenacity, that affections of the upper air-passages can not be cured unless attention be directed to adjacent or remote organs, so that they may be made to exercise their functions properly. No amount of mere local treatment, whether it be medical or surgical, will produce this desired result unless the heart, lungs, liver, and kidneys are all doing their share toward helping the general weal. Whilst all these organs are important to the preservation of a healthy upper air-tract, they all sink into relative littleness as compared with the immediate influence of the stomach. Let this organ perform its work well, and the nose, pharynx, and larynx are not apt to be great sufferers from catarrhal inflammation. Let the stomach be disturbed acutely or in a chronic manner by an attack of acute dyspepsia or habitual indigestion, and immediately there is evident morbid response on the part of the pituitary, pharyngeal, or laryngeal mucous membrane. I have seen children repeatedly who, whenever their stomach became upset by errors of diet or indiscretions of cake, candy, or soda-water, had febrile excitement accompanied by more or less marked pharyngeal inflammation. This pharyngeal inflammation is ordinarily one of two distinct types. Either there is a markedly red, swollen aspect, with sensations of dryness, soreness, and pain in deglutition, or there is less of these symptoms, while the tonsils on either side show a considerable number already of white exudations, situated over or near the mouths of the follicles, and which, so far as I have been able to observe, differ in no respect from similar deposits that indicate a contagious disorder with which we are all familiar. In many children, each time they are attacked with acute dyspepsia, gastric catarrh, or "biliousness," they also have within twenty-four or forty-eight hours subsequently an attack of this membranous amygdalitis. It shows itself sometimes indeed concomitantly with the evidences of disordered digestion, and again, as I have said, we may be obliged to wait a day or longer before the throat deposits are visible. Seemingly in the latter cases there can be little doubt that the disturbance of the stomachal digestion was the original factor in the development of the throat ailment. Now, this affection of the tonsils would not come under the heading, properly speaking, of the subject of our discussion were it not accompanied almost invariably with an extension of inflammation to the upper air-tract in one or other or both directions. Frequently the nasal passages become more or less occluded from swelling and infiltration of the turbinated bodies and the mucous membrane lining the naso-pharynx. Accompanying this condition there is a nasal intonation of voice, and when the tongue is depressed to look at the throat a mass of thick white or yellowish mucus fills up the interval between the pharyngeal wall and the margin of the soft palate. Immediately an effort of hawking takes place, so that the patient is enabled to expectorate the mass and afford himself relief. At times the pharyngeal wall is for a day or more covered with a continuous coating of viscid, sticky, adherent mucus. As this mucus drops down the pharyngeal wall some of it is prone to enter the larynx and produce a slight momentary sensation of suffocation or frequent harsh cough, until it is expelled by an effort of expectoration. Whenever, as will also occur, these attacks are accompanied by considerable hoarseness, it is the generally received impression that the child has in some unexplained manner taken cold. Now, although I believe that a not dissimilar state may occasionally occur from "catching cold," yet I am of the opinion that the digestive organs, and particularly the stomach, are, as a rule, directly responsible for these effects, always admitting that a check of perspiration, or sitting in a draught, or getting a wetting, may in a sensitive child produce acute indigestion, even though there has been no evident error in diet. To strengthen my interpretation of the cases referred to, I would lay emphasis on the fact that the best medication of a similar condition is active purgation and low diet for several days. Local medication of the nose, fauces, pharynx, or larynx is of far less importance.

Having considered the effects of acute dyspepsia in children, I would direct your attention to chronic digestive disturbances. To locate precisely in small children the seat of their suffering is frequently difficult. This statement is nowhere truer than of the stomach and bowels. There are some children, frequently sons or daughters of poor parents, not rarely of well-to-do people, who have coated, flabby, indented tongues; habitual foul breath; yellowish conjunctivæ; thick, sallow-looking skin of face; small or capricious appetite; distended abdomen; confined or loose bowels. These same children are constantly having vomiting attacks, stomachal or abdominal pains, and are ordinarily listless, peevish, fretful, and ill disposed to play or be amused. Here, then, is a clear picture of dyspepsia, which might, of course, readily be enlarged or elaborated. How frequently in just such cases do we hear parents state that their child is unable to rest at night because it can not breathe through its nose; that, even when it goes finally to sleep, it is restless and uncomfortable, and awakens with a start, frightened and crying out! Such children are liable to croupy attacks, in which hoarseness and spasmodic dyspnœa are very pronounced. Now, if we examine the nose and throat, we are apt to find some of the following conditions: In the nose the turbinated bodies are swollen and pale-looking, and frequently on one or both sides almost touch the nasal septum in more or less extensive areas; often, indeed, there is no interval between these organs. The post-nasal space habitually contains a quantity of thick mucus, which the child can not detach by its own effort, but which spontaneously dislodges itself from time to time, and which, when it reaches the lower pharynx, is usually swallowed, thus helping much to increase the dyspepsia which already exists. The pharynx, fauces, palate, tonsils, and larynx are all more or less pale-looking and relaxed. The uvula is apt to be elongated and somewhat infiltrated. The tonsils are sometimes considerably enlarged, but not in the majority of instances. Cough is a very frequent symptom. Occasionally it is a distressing, paroxysmal cough, caused by local irritation of the larynx from the presence of mucus, or by nerve irritation, or as a reflex from the elongated uvula tickling the base of the tongue or epiglottis. When we inquire into the efficient causation of such a condition, we are obliged to confess that great ignorance of or inattention to the most ordinary dietary requirements is the source from which so much trouble arises. It is interesting to observe in this connection how absolutely regardless many people are as to whether a child's bowels are moved every day regularly, as to the amount of sugar, or butter, or rich sauce a child may get at separate meals or at odd intervals during the twenty-four hours. And yet the great importance of proper care in these respects can not be a matter of reasonable doubt to any one who has closely observed the effects of the simplest remedial measures in restoring perfect equilibrium to the system. The remedial measure may not consist necessarily in doing something actively; it may merely be essential to eliminate or get rid of that which causes the outbreak of trouble.

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* Read before the American Laryngological Association at its tenth annual congress.

Taking away an undue amount of sugar from the dietary of some children will enable them to pass restful nights when, previous to this exercise of care, they would have attacks of stridulous cough which would alarm a household. The free use of lime-water, in one instance I recall, broke up very rapidly spasmodic attacks of cough and hoarseness very distressing in character, accompanied by an eruption of urticaria on the face and neck. These attacks occurred in a little girl who for two years was unable to drink a glass of simple milk without causing such an attack. If she ate a small slice of bread with the milk, the attacks referred to did not occur.

I can only explain such an occurrence by supposing that the small amount of bread helped to divide the milk curd in such a way as to prevent stomachal dyspepsia.

In adults we are able to get, of course, clear descriptions in regard to digestive ailments if manifestly present, and to trace the connection more accurately between them and affections of the mucous membrane of the upper air-tract. In many cases it is difficult accurately to determine, however, which is the occasion of most distress—the dyspepsia on the one hand, or the catarrhal inflammation of the upper air-passages on the other. Not only is the statement true, so closely correlated are the two conditions, that when one is better the other improves, and if one grows worse the other immediately follows the same march, but it is also often evident that dyspepsia preceded for a long while, in a more or less pronounced manner, the advent of disordered function of the upper air-tract. This is not, however, always the case. No matter how closely we interrogate our patients at times, we can form no definite opinion as to which disease manifested itself at first. What I have said in regard to the effect of acute dyspepsia in children is only in part true, as a rule, of adults. Men and women are far less exposed to have the *follicular* form of amygdalitis accompanying the blocking up of the nose from pituitary thickening and catarrh of the naso-pharynx. Still, such cases do occasionally occur. Among dyspeptic adults there are several familiar types of reflected inflammatory or other disturbances of the mucous membrane of the upper air-passages. These depend much upon the character or underlying causes of the dyspepsia. In women, especially those who are pale, careworn victims of nervousness, palpitations, leucorrhœa, and menstrual derangements, we shall, in my experience, often discover atrophic conditions present in the nose and throat. I am inclined to believe at present, mainly from analogy, that just as the glandular apparatus seems insufficient in the stomach to furnish a healthy and adequate amount of digestive fluids, so the pale, contracted, improperly nourished pituitary membrane, which is only an accompaniment here of gland atrophy, explains in some degree the presence of those hard, scaly, adherent, bad-smelling deposits which, under these circumstances, we are apt to notice in the nasal passages, upon the septum or turbinated bodies, or lodged high up in the naso-pharynx.

This analogy is apparently strengthened by the curative effects obtained by Shurly, Delavan, and others from the prolonged use of galvanism in those parts which can be readily reached. Occasionally in such women, just as the flatulent dyspepsia is accompanied by gastralgia more or less intense in its manifestations, so the atrophic rhinitis, or the pharyngitis sicca, may be accompanied by sharp neuralgic pains radiating in different directions to the eye, ear, temple, vertex, larynx, etc., or that continued burning or throbbing which, when it exists, is so distressing. In some of these women the atrophic rhinitis and pharyngitis, though quite evident if we consider the obviously thin, transparent-looking mucous membrane, are not accompanied by any increased or abnormal formation of inspissated mucus. What we notice in addition to the moderate or considerable atrophy is a marked augmentation in the number and size of the follicles in the naso-pharynx and extending downward over the lower and median pharyngeal wall. Between these various follicles the veins are oftentimes enlarged, tortuous, and filled with blood. The digestive disturbance of the nature of flatulent dyspepsia, accompanied by more or less pain and distress, usually after food and sometimes before or between meals, is frequently relieved most by an appropriate cardiac tonic like strophanthus or strychnine. Not infrequently this same cardiac tonic will be the means of neutralizing to a considerable degree the distressed feelings in the throat, and the glistening, irritated aspect which previously existed will notably improve, the enlarged veins become less prominent, and all the various abnormal painful sensations become very much less, or disappear entirely. What I have described as being true in many instances in which the heart shows only that degree of weakness which is distinctly evident to the ear of the expert auscultator when he discovers a distant, muffled, irregular first sound, may be more easily allowed when the systole of the heart is accompanied by a blowing murmur which is heard more or less intensely over the entire precordial area.

The dyspeptic student, the overworked, somewhat "bilious" professional man who has no time for physical exercise or out-door pastimes, those persons closely confined in all sedentary pursuits, know full well, when their attention is directed in that way by their well-wisher and professional adviser, that they suffer at the same time and almost invariably from *slow*, difficult digestion, and from *catarrhal secretions* in excess from the upper air-passages. As an absolute antithesis to the class of individuals just referred to we should place the corpulent, plethoric individual with much adipose tissue everywhere, and who becomes easily congested. His face shows it by the flushed, engorged appearance; his liver shows it by transcending its normal limits, especially in the downward direction; his kidneys are not backward in demonstrating it by the high specific gravity, the intense acidity, the considerable deposit of urates, which are revealed in his urine. He is short-winded, has palpitations when he goes up-stairs, and his heart-action is often labored after slight exertion, although beating, as a rule, when he is in repose, forcibly and regularly. There may be some enlargement of this organ, but none which of itself appears serious as regards the outlook for the patient. Such an individual is often a dyspeptic; he eats heartily, but his satisfaction is marred afterward by feelings of weight and distension in the epigastric region, which the full use of Vichy water temporarily relieves.

If we inspect this man's nasal passages they are occluded, very red, and often the turbinated bodies fill up the choanæ so much that free nasal respiration is absolutely impossible. The mucous membranes of the naso-pharynx, pharynx, fauces, palate, and larynx, all show more or less the same thickened, engorged appearance. Now, all means at our command, locally applied, are in such a case of little real utility until the portal circulation is thoroughly relieved. These are the instances in which Carlsbad water at home or abroad is of great service. Together with the water, the regimen instituted at the Carlsbad Springs is of much advantage, and helps largely to complete the cure of the dyspepsia (result of the general and local plethora) and the intercurrent catarrhal congestion of the mucous membrane of the upper air-passages. After this treatment has been faithfully carried out, unless the morbid condition had previously been allowed to continue much too long without interference, there is usually no need for the use of the knife, the saw, or the drill to open up the nasal passages and establish satisfactory drainage. Another category of patient is one who without very pronounced dyspeptic symptoms yet has a constantly coated tongue and is always somewhat torpid after too abundant and varied meals. The urine of such a patient may or may not show an excess of urates, a few hyaline casts, and a trace of albumin. He is possibly a club man, who takes at least several drinks of whisky or beer each day, and has a slight muco-purulent discharge from the naso-pharyngeal space, with a subjective unpleasant odor and taste, which is a source of considerable annoyance. Such persons are perfectly willing to have local applications made to their nasal passages, under the form of sprays, pulverizations, douches, etc., during successive weeks and months. If these fail to afford relief, they are willing to submit to repeated cauterizations of the moderately hypertrophied turbinated bodies, in the hope of obtaining a more or less permanent cure.

All is vain, however, until, by strict dieting and the continued use during some time of a pill of podophyllin, or other pill appropriate to their condition, they are enabled to affect the hepatic function favorably. In order that the torpid state of the liver (due to its obstructed circulation and brought on by excesses of the table) may rapidly improve, certain hygienic rules must be enforced. Alcohol should be given up for a time, the amount of food should be diminished, and tobacco proscribed. In their place substitute much out-door exercise and early hours for retiring. If these rules be carried out effectively, improvement in health will soon be manifest. The tongue is less coated in the morning, bad taste and smell disappear, and these patients feel better in every way, readier to go about and attend to their affairs, and the catarrhal secretions from the nose diminish to such an extent that they are almost unnoticed. Such patients are really dyspeptics without being aware of it until sensible treatment makes them conscious of the fact by relieving all unpleasant symptoms. Why does dyspepsia act thus to produce various morbid conditions of the mucous membrane of the upper air-passages? The reply in many instances seems very simple; in others difficult. In certain cases of dyspepsia there is developed a fermentation or putrefaction of the ingesta which gives rise to the formation of certain organic acids in excess, such as butyric, acetic, or lactic acid, or again to the formation of irritating gases, such as sulphureted hydrogen, hydrogen, or carbonic acid. The acids are brought up into the throat by involuntary efforts of regurgitation, and thus cause pronounced and manifest local irritation. Gases may rise up in the same way and produce analogous effects. Occasionally, however, one is not conscious of acid eructations into the throat, or the rise of malodorous gases. Despite this fact, it is fair to assume that the latter, at least, *do* come up from the stomach, and, by contact with the mucous membrane of the upper air-passages, occasion the unpleasant effects to which we have previously referred. In some instances, doubtless, we shall be obliged to regard malassimilation, general depression of nervous force, reflex irritation from a chronically disturbed organ or system, as explanations either of which will be partly or wholly true. Once the catarrhal inflammation of the upper air-passages has taken place, it is certain that it frequently aggravates very much the pre-existing dyspepsia. Indeed, it is no uncommon thing to hear a patient say that it is the violent hawking and constant spitting from which he suffers every morning on rising that unsettles his stomach at that time, and may continue to cause inappetence or disgust for food during several hours of the day.

If this is true, we must get the nasal passages and pharynx in better shape if we can reasonably hope really to improve the condition of our patient. I would also state as an observed fact, not very infrequent, that patients who have never previously suffered in the smallest degree from any evidence whatever of one of the recognized forms of dyspepsia have developed this condition in a distinct form subsequent to the appearance of a catarrhal inflammation of the nose, naso-pharynx, or the pharynx and larynx. It is probable in such cases that some of the secreted mucus from these organs works its way down the back of the throat and is swallowed, thus starting gastric disturbance. It is also clear that the current of inspired air, or rather the air which is swallowed, after passing over masses of mucus or mucopus, more or less in a state of putrefaction, must be very injurious to the healthy functions of the stomach, or stomach and bowels. In these latter cases, again, there should be little hope of favorably modifying the patient's condition unless the catarrhal disease of the upper air-passages be efficiently treated. I do not consider it as within my province at this time to consider the possibility of dyspepsia acting as an efficient or remote cause in the production of various neoplasms in the upper air-passages. Seemingly this study is one that future observation can alone settle on anything like a satisfactory basis. In conclusion, I would remark that in speaking of dyspepsia I have simply used the term as applied to difficult or disturbed digestion, dependent mainly upon functional trouble, with, no doubt in many cases, an intercurrent state of gastric inflammation, more or less intense and extensive. It is obvious that in all cases in which these conditions are present to any degree whatever a suitable and judicious dietary is equally important for a return to a normal state of the nose, throat, and stomach.

# CASES ILLUSTRATING THE INFLUENCE OF CONVEX GLASSES IN CORRECTING THE CONVERGENT SQUINT OF YOUNG CHILDREN, MOSTLY WITHOUT TENOTOMY.*

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The following cases are reported, not on account of a pretense of anything novel, but because it is thought that the experience is of some value, and that the result of treatment is more favorable than might have been expected or than is found to exist in the experience of some others:

Case I.—Martin J., aged four, applied November 13, 1885, for treatment on account of a periodic squint, in which the convergence was about $2\frac{1}{2}$ lines. This had been in existence for two years and a half. Under atropine, and by the aid of the ophthalmoscope, the hypermetropia was found to be $+\frac{1}{8}$. Glasses in accordance with this refraction were ordered to be worn constantly. A few days subsequent to this he returned with the squint nearly corrected. No further record.

Case II.—Lillie M., aged five, on March 19, 1886, was found to have a convergent squint of 3 lines, which had existed for two years. She usually fixed with the left, but occasionally with the right eye. By means of atropine and the ophthalmoscope the hypermetropia was found to be $\frac{1}{6}$. This correction was accordingly prescribed to be worn constantly. Nine months subsequently there was scarcely any squint while wearing the glasses, but without them the squint was worse than ever. An operation was not deemed necessary.

Case III.—William R. R., aged eight, has periodic convergent strabismus of about 3 lines. His hypermetropia was $\frac{1}{12}$. Glasses in accordance with this were prescribed on July 20, 1888. After wearing these with perfect comfort for six months the squint was cured. The eyes returned only gradually to the proper position, it requiring most of the six months to correct the faulty position of the eyes.

Case IV.—Annie J., aged four, had $2\frac{1}{2}$ lines of convergent squint. Her hypermetropia was found by atropine and the ophthalmoscope to be $\frac{1}{10}$. Glasses in accordance with this were prescribed, which at a subsequent period seemed likely to correct the strabismus.

Case V.—Martha C., aged fifteen, applied on September 5, 1888, with a periodic convergent squint. V., R. $\frac{20}{20}$ and L. $\frac{20}{30}$. The hypermetropia was found by atropine and the ophthalmoscope to be about $\frac{1}{14}$. Glasses in accordance with this were ordered. The squint was entirely corrected by wearing these glasses, and no complaint was made of pain or fatigue being caused by the full correction.

Case VI.—Edmond W., aged ten, has a convergent squint of 2 lines; fixes with right eye. August 24, 1888, under atropine, the V. R. with $+\frac{1}{6}$ is $\frac{20}{30}$. V. L. with $+\frac{1}{5.5} = \frac{20}{20}$. $+\frac{1}{7}$ was ordered for each and there is no further squint.

Case VII.—Max L., aged seven. Periodic squint of $2\frac{1}{2}$ lines since three years of age. Fixes with right eye. Ordered $+\frac{1}{8}$ in each, being his hypermetropia under atropine, the ophthalmoscope being used for the diagnosis. Squints now very little.

Case VIII.—Jennie T., aged seven. Periodic squint for a few weeks. July 16, 1888, vision not tested on account of extreme youth. By the ophthalmoscope, under atropine, the hypermetropia was found to be about $\frac{1}{8}$. $+\frac{1}{10}$ was ordered to be worn constantly. While the glasses are worn there is no squint, but if they are left off for a few minutes the strabismus returns. There is no complaint about the spectacles worrying the eyes.

Case IX.—Joseph B., aged eight. Convergent strabismus of a few weeks' duration. V. R. $\frac{20}{20}$ with $+\frac{1}{20}$. V. L. $\frac{20}{30}$ with $+\frac{1}{20}$. Fixes with the perfect eye. By the ophthalmoscope the hypermetropia, without atropine, is $\frac{1}{16}$. Patient ordered $+\frac{1}{20}$ to be worn constantly. The squint is completely cured without tenotomy. The patient is under observation, however, for no great length of time.

One or two cases of this kind have relapsed and required an operation; this may have been one of them, though there is no record of it.

Case X.—Lillie M., aged five, has convergent strabismus. The hypermetropia is $+\frac{1}{6}$, which she was ordered to wear constantly. Since this time there has been no squint unless the glasses are discarded, when it makes its appearance after a few minutes.

Case XI.—Lillie K., aged six. Convergent strabismus since two years of age. Divided internal rectus of non-fixing eye; still some squint, and $+\frac{1}{10}$ was ordered, which completely corrects the hypermetropia. Eyes remain in proper position while glasses are worn, but on abandoning them there is a return of the strabismus. These glasses are continued for about six months, much against the prejudices of the parents. Occasionally the glasses are left off a while to see whether the eyes will remain straight. After six months the parents find that the eyes remain in position after the glasses are removed. They are consequently abandoned, with the permission of the operator, as no asthenopic symptoms seem to exist.

Case XII.—Josephine V., aged eleven. Strabismus convergens. One internus divided; imperfect correction. Her hypermetropia of $+\frac{1}{16}$ was corrected. One week later squint nearly disappeared. No further record.

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* Read before the Medical Society of the State of New York at its eighty-third annual meeting.

CASE XIII.—Cornelius E. M., aged six. Convergent strabismus. Hypermetropia $\frac{1}{12}$. Glasses in accordance with this were ordered. At first there was no effect, but in a week the eyes deviated much less. This was the usual form of squint, the non-fixing eye being amblyopic. No further record.

CASE XIV.—Lizzie D., aged eleven, has squinted with the right eye for five years. V., R. $\frac{20}{40}$ and L. $\frac{20}{20}$. Manifest hypermetropia $+\frac{1}{14}$. No binocular vision. A year and a half since her manifest hypermetropia was corrected. The glasses were worn constantly, and in two or three months the squint had ceased to exist. On November 14, 1888, she came again to me with this report. If spectacles are removed for a few minutes the squint returns, although there is no appearance of it when the glasses are worn. She complains that her correction for the far point, although comfortable, does not suit for reading. On inspection I find $+\frac{1}{11}$ the most comfortable, and accordingly prescribe it. There is some conjunctivitis in lower lids. The refraction on the nerves is by the ophthalmoscope $+\frac{1}{8}$ for R. and $+\frac{1}{10}$ for L.

CASE XV.—William G., aged five, has squinted one week in left eye. The right has perfect vision, but the left is considerably lowered. At times the left eye squints nearly three lines. Occasionally the eyes are straight. Under atropine there is no squint. Too young to test the sight with glasses, as he does not read and the intelligence is slow. By the ophthalmoscope, while under the influence of atropine, the hypermetropia is from $\frac{1}{5}$ to $\frac{1}{6}$. Ordered $+\frac{1}{6}$ to be worn constantly. Naturally he does not see well at the far point with this correction. The squint is entirely arrested while the glasses are worn. So far, only three months have elapsed since correcting the ametropia, but the eyes remain in proper position. Where these children have attended school I have found it necessary to discard glasses while using the eyes for distance, blackboard work, etc., or to correct the manifest hypermetropia.

CASE XVI.—Otto M., aged two, convergent squint; fixes with left eye. Has been operated on previously by another surgeon; $+\frac{1}{16}$ was ordered, which he had worn constantly. On September 28, 1888, I divided the left internal rectus. He was ordered to continue wearing his glasses. After a few weeks, the eye still squinting, the refraction was investigated and found by the ophthalmoscope and atropine to be $+\frac{1}{8}$, which was ordered to be worn constantly.

The patient has been inspected from time to time, and now (January, 1889) the eyes are in perfect position and no complaint is made of the strong glasses.

CASE XVII.—Elizabeth E., aged six. Convergent squint; fixes with left eye. On May 9th, under atropine and with the ophthalmoscope, the hypermetropia was found to be $+\frac{1}{12}$. The squint being excessive, both interni were divided on April 25, 1888. On October 29th the eyes still converged and $+\frac{1}{12}$ was ordered. Since this time the eyes are parallel.

On the previous May, record was made that the eyes were *nearly* straight; so this case seems to be somewhat of the nature of a periodic squint.

The cases are briefly tabulated as follows:

| No. | Age. | |
|---|---|---|
| 1 | 4 | Periodic squint; H. $\frac{1}{8}$ ordered; record incomplete. |
| 2 | 5 | Squint of 3″ since two years; ordered $+\frac{1}{6}$, which mostly relieves the squint. |
| 3 | 8 | Periodic squint of 3″; wore $+\frac{1}{12}$ for two months, when cured; continued glasses. |
| 4 | 4 | Squint, $2\frac{1}{2}$″; H. $\frac{1}{10}$ ordered; squint probably corrected. |
| 5 | 15 | Periodic squint cured by wearing $+\frac{1}{16}$. |
| 6 | 10 | H. of $\frac{1}{6}$; complete correction; cured the squint. |
| 7 | 7 | Periodic squint of $2\frac{1}{2}$″ since three years; nearly cured by wearing $+\frac{1}{8}$. |
| 8 | 7 | Periodic squint of a few weeks' standing; squint cured by wearing $+\frac{1}{10}$. |
| 9 | 8 | Squint of a few weeks cured by wearing $+\frac{1}{20}$; not observed very long. |
| 10 | 5 | H. $+\frac{1}{6}$; cured by correction; squints with glasses off. |
| 11 | 6 | Squint since two years; divided int. rect.; still squinted, but was cured by wearing $+\frac{1}{10}$ for six months, when it was found that the eyes remained perfect when glasses were abandoned. |
| 12 | 11 | Operated on one rectus; eyes not parallel, but rendered so by wearing $+\frac{1}{16}$. |
| 13 | 6 | H. $\frac{1}{12}$ worn one week; eyes deviate much less. |
| 14 | 11 | Squinted five years; ordered $+\frac{1}{14}$, her manifest H.; in three months squint cured; worn comfortably, but in a year and a half complained that reading was painful, so a $+\frac{1}{11}$, her total H., was worn for reading with comfort. |
| 15 | 5 | Squinted for one week excessively (3″), periodic; H. $\frac{1}{6}$; these are worn with cure of squint; observed for three months. |
| 16 | 2 | Operated on by another surgeon, and manifest H. corrected; when applied to me, still squinted; did tenotomy, and glasses continued without correction of squint; ordered complete neutralization of H. ($\frac{1}{8}$), and eyes are straight. |
| 17 | 6 | H. $\frac{1}{12}$; both interni divided; eye still squinting; $+\frac{1}{12}$ ordered, which complete the cure. |

NOTE.—In nearly all these cases full correction was made; anything less seemed inoperative.

As to the question of amblyopia from disuse of the squinting eye. This proposition could not be intelligently entertained in cases of such extreme youth, even if it were true, which seems to the writer doubtful; but early correction of a squint would be serviceable in improving the sight of an eye dependent on non-use. Any special means to be used in the restoration of binocular single vision in such cases seems contra-indicated as not being likely to often succeed.

The questions raised in this paper are few and simple. The old notion that during accommodation the interni are more or less strongly contracted is adopted in this place. Where there is hypermetropia, naturally a greater strain falls upon the interni, and, in a certain number of cases, develops convergent strabismus. Whether this condition would often result where the patient had a previous condition of binocular single vision is open to question, such conditions not having been known, so far as I can learn. It is, of course, well known that a patient with binocular single vision is very likely to keep his eyes in position, in spite of preponderating muscles, by an excessive innervation of the weaker opponents, in order to obviate diplopia. It will be seen by these reported cases that, as a rule, *all* the hypermetropia was corrected. Case XVI, which was not restored to a proper balance until the complete neutralization of the hypermetropia was done, seems to furnish evidence of the truth of this proposition. I have had no satisfactory success with atropine in the correction of strabismus, as Dr. John Green, in the "Transactions of the American Ophthalmological Society," seems to have had, although I am unable to satisfactorily explain why the persistent use of atropine to arrest the action of the accommodation should not at least temporarily relieve the squint, as well as the correction of the ametropia by glasses. In my experience it has not often done so. In some of my cases it will be seen that, owing to their extreme youth, the ophthalmoscope and atropine were necessary in determining the state of the refraction. In nearly all of these cases there was naturally overcorrection for the far point, and, where it was necessary to see distant objects perfectly, the glasses were temporarily removed.

So far I have not found that this overcorrection caused discomfort, which surprised me, inasmuch as some hypermetropes are pained by wearing glasses constantly which only neutralize their manifest hypermetropia.

Tests for binocular vision in these cases were not made, partly on account of the extreme youth of most of the patients, and partly because it was believed that in most of them it did not exist, and that it was not likely to be brought about by even correcting the faulty position of the eyes.

Perhaps this explanation of the tolerance to the overcorrection may be offered: There was no binocular vision, and the question of relative accommodation entered less into the subject than in other cases.

I have heard from one of these patients, who made some trouble by not looking through the glasses, but over them. This may be obviated by using a lens of greater diameter than usual.

## HISTORY OF A REMARKABLE CASE OF POLYARTHRITIS DEFORMANS.

By HENRY S. STARK, A. B., M. D.

The history of this case is interesting, firstly because such an aggravated type of so common a disease is rarely encountered, and secondly because there is a suspicion that a morbid condition of the spinal cord, causing trophoneurotic disturbances of nutrition, co-exists with the primary lesion. Senator recognizes two varieties of this affection, the "senile" and the "peripheric," the former attacking the large joints, as the hip joint, while the latter attacks by preference the small joints of the fingers and toes and primarily the large toe. It is difficult to decide from the history of this case with what variety we are here dealing.

Recently Remak, Benedikt, and Charcot have directed attention to the nervous system as the original seat of arthropathia, and their researches led them to believe that the peripheric variety especially of this affection was of neurotic origin, resulting from irritative states of the spinal marrow. Remak therefore called this variety "arthritis myelitica."

Another element which would point to a neuropathic origin in my case is the rapid and extensive muscular atrophy, which might not be satisfactorily explained by the immobility of the articulations and consequent muscular inaction, but might reasonably be supposed to be due to lesions somewhere in the nervous apparatus. According to the patient's statements, he was confined to bed thirty years before this symptom developed, and it ran a complete course in three years and a half, leaving him almost a living skeleton.

Still a third symptom which points to a neurotic lesion is the occurrence of the attacks in symmetrical joints.

The history of the case is a typical one of "arthritis deformans" as is described in such familiar text-books as those of von Ziemssen, Eichhorst, and Flint.

Mr. B., aged fifty-nine, single, farmer, native of New York State. There is no family history of tubercular, specific, malignant, or nervous diseases, but a marked rheumatic diathesis characterizes the family through several generations. The patient himself denies a venereal history, but confesses to a slight alcoholic and tobacco habit. He had none of the exanthemata common to childhood, but enjoyed the best of health until he was seven years old, when he had a swelling of the right ankle which only lasted a few days. Two years after he was attacked with what his physician called "inflammatory rheumatism" of the right hip joint. This attack rapidly spread to both knees and ankles, and was attended by swelling and a high fever. This lasted six weeks, when he entirely recovered. He remained well until 1847, when he became subject to attacks of pain in the region of the heart, which he believed were due to overexertion, from which attacks he soon recovered without ever a recurrence.

It was in 1848, when he was eighteen years of age, that the present affliction first manifested itself. At about this time he occasionally complained of stiffness of the joints, especially the hips, on rising in the morning. During the course of the day this symptom would disappear. One morning in July of this year, while out walking, the ball of the right toe suddenly became painful, "as though a nail were being driven into the bone." This continued the next day, when both ankles and knees became greatly swollen, and the skin reddened. He suffered great pain and had a high fever. He was attended by a local physician, who prescribed large and frequent doses of calomel, and later on iodide of potassium, with local applications of setons, blistering plaster, and dry cups. Soon the knees became distended with "water," as his physician styled it, which gradually disappeared without surgical assistance. With the absorption of the fluid the fever abated, and in the autumn of the year he left his bed and walked about with the aid of a cane or crutches. During this attack his hair fell out, but rapidly regrew.

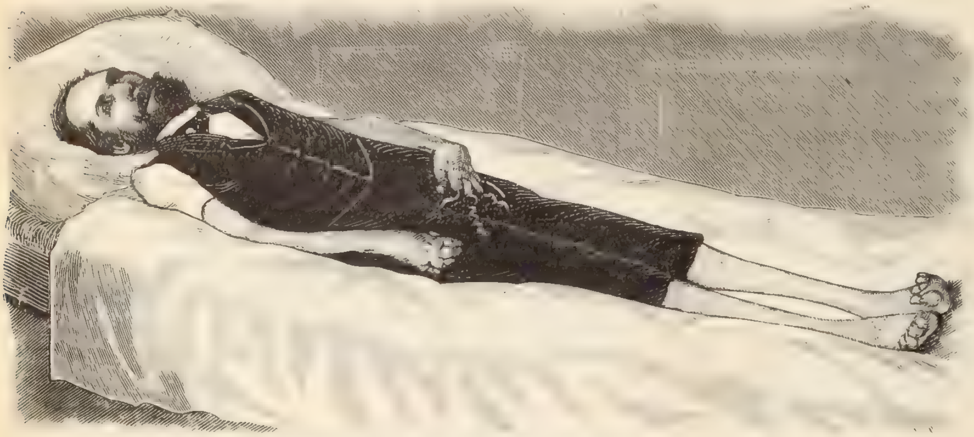
The patient states that from this time on his knees and hips gradually became stiffened, that this symptom continually increased in severity until the year 1855, when his joints were so rigid and immovable that he was entirely deprived of all power of locomotion, and he was forced to take to bed, where he has remained to the present time, a period of thirty-four years, during which time he has never been on his feet.

In 1860 he had an inflammation of the left eye, which soon disappeared; in 1869 he had a recurrence of the inflammation, but in both eyes. From this latter date his sight gradually failed him, and in the course of ten weeks was entirely destroyed.

Four years ago he weighed 155 pounds; now his weight is 68 pounds. This loss in weight, the patient states, only occurred within the last four years. There are no disturbances of the bladder or rectum. He states that he never had a bedsore, although his attendants used no further precautions than ordinary cleanliness.

Since 1855 he has been subject to muscular twitchings, which he is conscious of whenever he lies quiet; he states that this twitching is perambulatory, no part of his body being exempt. His appetite for venery has not diminished. He considers himself perfectly well, except that he is "crippled," and boasts that for more than twenty-five years he has never taken medicine in any form.

In the physical examination of this patient I was kindly assisted by Dr. A. Caillé and Dr. G. W. Jacoby.



The patient is of medium height, weighs sixty-eight pounds, and is very intelligent. His appetite is good, his bowels are regular, his temperature is normal, but his pulse beats only 48 to the minute. He counts his pulse daily and states that it fluctuates between 45 and 55 in a minute. He looks decidedly anæmic, and is emaciated to a degree. Almost his entire voluntary muscular system has atrophied. There is complete ankylosis of the following articulations: elbows, wrists, hips, knees, ankles, all of the vertebral articulations ("spondylitis deformans"), and the temporo-maxillary joint. There is partial ankylosis of the shoulder joints and of some of the phalangeal joints. The only movements the patient is capable of are slight abduction and adduction at the shoulder joints; otherwise he is completely incapable of moving. There is marked ossification of the ligaments and capsules of the hips and knee joints and of the joints of the feet. There is eburnation of the epiphyseal ends of the tibiæ and fibulæ and femoral bones. The carpal bones are ankylosed in a position of subluxation, and there is here slight bone proliferation. In other joints there is a reverse process at work—namely, absorption of bone and of all structures that enter into the formation of joints. This process is seen in the fingers, where some phalanges have entirely disappeared, while others lie loose beneath the integument. His finger-nails are seven and eight inches long, and curled like a feather. The tendons on the wrist are ossified. The general appearance of the hands is that of the *main en griffe* of Duchenne, characteristic of degeneration of the ganglion cells of the anterior horns, as in progressive muscular atrophy. In some of the interphalangeal articulations the synovial membranes are so extensively hypertrophied as to form *culs-de-sac*. The toes are completely ankylosed and deflected laterally, lying over each other like the tiles of a roof. The femoral bones have been partially rotated inward, and this has caused the inner aspects of the lower portions of the thighs to lie in apposition. In this position they have remained, strange to say, for years without producing the slightest abrasion of the skin.

The physical examination revealed the following: The area of liver dullness increased anteriorly; breathing was "puerile" posteriorly; a systolic murmur heard loudest at the apex; otherwise the examination of the internal organs gave negative results. Palpation of the abdominal aorta, carotid, femoral, and radial arteries revealed arterial sclerosis. These vessels appeared thickened and to have lost their elasticity. The arteries reached their full expansion and emptied very slowly; the blood-pressure, as approximately estimated by finger-pressure, was quite tense, while the pulse-beats did not arrive synchronously, those on the right side coming ahead.

On testing the reflexes, it was learned that the superficial—*e. g.*, cremasteric and abdominal—responded promptly, while the deep reflexes, such as the knee-jerk and ankle-clonus, could of course not be ascertained, on account of the rigidity of the parts affected by the test. There were no disturbances of sensation. The cartilages of the larynx could not be seen on account of the immobility of the jaw. The os hyoides was normal, apparently. An examination of the eyes disclosed extensive posterior synechiæ and patches of iritic discoloration, while the lenses were so cataractous as to suggest to the mind pieces of chalk. The macroscopic and microscopic examination of the urine revealed no pathological products.

In order to feed the patient, some of his front teeth have been extracted, and through the spaces thus left finely minced food is passed by an attendant. By rubbing the food against the palate with his tongue, the patient is enabled to masticate it. The remaining upper and lower teeth have become displaced and permanently fixed against each other, dovetail fashion.

270 East Seventh Street.

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## REMARKS ON THE EFFECTS OF ELECTRICITY IN PERIPHERAL NERVE LESIONS.

### By A. D. ROCKWELL, M.D.

Electricity has wrought its best results neither in central nor peripheral nerve lesions, but in the variety of nerve disease that in our ignorance we have termed functional. Limited, however, as its value is in the graver forms of structural disease of the central and peripheral nervous system, it not infrequently acts with extraordinary efficiency and gives rise to expectations in succeeding cases that are too often far from being fulfilled.

These discrepancies in results open up a field of inquiry which in itself might usefully occupy an evening for consideration. Facial paralysis is among the more important peripheral nervous diseases, and, from an experience in the electrical treatment of a very large number of cases, it has always seemed to me that such treatment very materially hastened the progress toward cure in many of these cases, although in others no especial benefit seemed to be derived. Based perhaps on experience only in unfavorable cases, it has been denied that electricity has any influence over the process of nerve degeneration or recovery. It is interesting, therefore, to consider the questions: 1. Does electricity sensibly hasten recovery in cases of peripheral facial paralysis? 2. In what class of cases is it especially serviceable?

A case briefly stated, one of many which form the aggregated text of these remarks, will emphasize my meaning:

A short time ago I saw a woman suffering from typical facial paralysis of the right side. Seven weeks before, she awoke in the morning only to find her face paralyzed. She immediately went to her physician, who applied the faradaic current, and repeated the application daily, Sundays included, for seven weeks. At the end of that time there was no improvement. He then came with her to my office, when I found no reaction to faradism, but, on the contrary, a greatly *increased* reaction to galvanism. The uninterrupted galvanic current was substituted for the faradaic, and in a few days a decided improvement was manifest. It required a decreasing strength of galvanism to produce contractions of the facial muscles, and on the sixth day farado-muscular contractility appeared, and within a month the muscles contracted normally to both currents, and the paralysis had approximately disappeared.

Such a case as this not only helps to answer in the affirmative the first question, Does electricity sensibly hasten recovery in peripheral paralysis? but also gives a clew as to the class of cases that most appreciate the beneficial influence of the current. The faradaic current causes contractions through its action on the intramuscular nerves, and not on the muscular fiber, while the galvanic acts powerfully on muscular fiber and less vigorously on intramuscular nerves. When, therefore, a muscle is deprived of its nerve influence in any way, the faradaic current is powerless to contract it, while galvanism not only causes contractions, but calls them forth even more vigorously than in health, and this in proportion to the strength of the current and the slowness of the interruptions. In cases similar to the one to which allusion has been made the intramuscular nerves are undoubtedly paralyzed from the beginning, but the muscular fiber is intact, and, through checks to inhibition or faulty nutrition, we see a remarkable increase of galvano-muscular contractility. While the cases, according to my observation, that respond most promptly to electrical treatment are those that present this anomalous reversal of muscular contractility to galvanic interrogation, rather than those where there exists an impaired reaction to both currents, we yet find many cases of lost farado-muscular contractility associated with increased galvano-muscular contractility that show little tendency to progress rapidly under electrical treatment. Such are the cases that we might naturally suppose to be dependent upon a neuritis within the Falloppian canal.

I can not indeed see how electricity can be of much use in cases of facial paralysis caused by a neuritis within the bony canal and the consequent swelling and compression of the nerve fibers; but it is not difficult to understand how it can be of service if the nerve terminals alone, or that portion of the nerve external to the Falloppian canal, are mainly affected. Gowers, in his great and conservative work on nervous diseases, insists that there is no evidence that cold ever paralyzes the intramuscular nerves, and doubts whether inflammation ever affects the nerve after its emergence from the canal. If this is true, then it is difficult to account for some of the rapid recoveries that have taken place in cases that were apparently stationary, when subjected to the proper current.

While admitting that electricity possesses only a limited range of usefulness in severe lesions of either the central or peripheral nervous system, I think it is one of the most efficient remedies we possess for the relief of the various symptoms associated with these lesions, while for the removal of the finer nutritive disturbances that underlie many persistent neuralgias the galvanic current is certainly a remedy of the greatest value.

But whatever good is accomplished by the current in arresting degenerative processes in nerve and muscle, it must be through attention to the details of methods of application.

Years ago my attention was called to the irreparable injury that may accrue from sudden galvanic shocks in certain cases of paralysis.

These observations were made more especially in the essential paralysis of childhood, but are equally applicable in cases of peripheral paralysis; and therefore in any case of this type where there exists either marked decrease or increase of electro-muscular contractility or irritability, and especially where we have associated the characteristic "reactions of degeneration," it is far better treatment to avoid frequent interruptions of the current, the effects of which are undue stimulation, and in their relation to nutrition destructive rather than reconstructive.

The continuous passage of the galvanic current, while in a certain sense stimulating, combines influences that are sedative and tonic and pre-eminently reconstructive; and whatever power this agent possesses in resisting progressive degenerative changes in nerve and muscle, it is more by its continuous passage and the induction of those cumulative effects that come from current reversal without shock than the ordinary method of slow or rapid interruption.

If time had permitted, I should have been glad to dwell upon the altered electrical reactions following nerve lesions, and among special forms of peripheral paralysis to devote a few moments to the discussion of the effects of electricity in diphtheritic paralysis. As in facial paralysis, its ultimate tendency to recovery renders it a matter of no little difficulty to ascertain the influence of methods of treatment; but if electricity is powerless to neutralize the early stages of the morbid process or prevent the spread of the paralysis, the records of experience have unmistakably demonstrated its beneficial influence in many an old case of altered nutrition of nerve and muscle.

## Correspondence.

### LETTER FROM PARIS.

*M. Roussy on the Pathogenesis of Fever.—Linear Electrolysis in the Treatment of Stricture of the Œsophagus.—The Use of Forceps in Occipito-posterior Positions, before Rotation of the Fœtal Head.—The Baptism of Unborn Infants.—Anæsthesia in Labor.—Naphthol in the Treatment of Tuberculous Ulcerations.—A New Drug; Exalgine.*

PARIS, *March 25, 1889.*

M. ROUSSY, *chef de laboratoire* to Professor Hayem, professor of therapeutics at the Paris faculty, presents some clinical and experimental researches on the pathogenesis of fever that, if found correct, will cause quite a revolution in our theories, while it will establish the nature, with the physiological and pathological action, of the diastases or soluble ferments. First, as to clinical observation, M. Roussy has been struck with the fact that intense fever will arise in a man after the ingestion of stale beer, spoiled meats, or stagnant water, and even after excessive fatigue. These facts led him to think that fever was caused by soluble chemical substances rather than by micro-organisms. For the past three years he has been testing this idea on animals by hypodermatic injections of putrid matters, such as a maceration of hay, stale meat solutions, bad beer, etc., and in some six hundred cases (in dogs only) a fever was produced almost instantaneously, the temperature rising rapidly to 42° C. (107·6° F.), and death occurred in all the cases. The rapidity and intensity of this action are a proof that it is caused by chemical substances rather than microbes. Injection of the same substances into the stomach gave no serious results, which seems to indicate that they are modified by the intestinal secretions, or it may be that they are destroyed in the digestive tube. These are probably theories that have occurred to others, but the most remarkable portion of M. Roussy's communication to the Academy is that he has been able to isolate some of these soluble chemical substances from the micro-organisms. One of them he proposes to call *pyrétogénine.* It is a white substance, granular, homogeneous, of the odor of yeast, and in fact it is extracted from yeast cells. This substance, given to dogs in extremely small doses, produces an intense fever. Another of the substances is called *algogénine* or *frigorigénine.* It is extracted from animal matter that has been destroyed by fermentation caused by micro-organisms. This substance produces a most extraordinary fall of temperature of over four degrees. The pyretogenic substance is very probably a base of special organic origin, and it is also a diastatic ferment of most remarkable power, as less than a milligramme introduced into the organism of a dog puts it into a state of intense fermentation or acute fever. This new fact, if proved to be true, is one of the highest importance to general pathology. If all cells or all micro-organisms—that is to say, all the biological units—elaborate soluble ferments with which they attack and transform animal matter, a new and simple pathology has been created by M. Roussy's demonstrations.

M. Dujardin-Beaumetz has presented to the Academy a patient suffering from stricture of the œsophagus who had been operated upon by Dr. J. A. Fort with his new process of linear electrolysis; the opening before the operation was only five millimetres in diameter, and the unfortunate patient was dying of inanition, being hardly able to take a few drops of liquid in the course of a day. Since the operation the passage is at least fourteen millimetres in diameter, and he can now take all sorts of food, and, while he weighed one hundred and fourteen pounds before treatment, he now weighs one hundred and twenty-three pounds, only a week after the operation. This is the first time that linear electrolysis has been applied to the œsophageal tube, but Dr. Fort has frequently employed it in the treatment of stricture of the urethra with great benefit.

M. Budin calls attention to the fact that sometimes the fœtal head, when in an occipito-posterior position, will perform rotation so rapidly that the occiput will come under the pubic symphysis while the limbs and body have not yet turned, so that the back of the head faces the anterior portion of the body of the fœtus. In one case given, where version was intended, the hand introduced into the uterus to search for the mouth found it only by following the posterior plane of the body. M. Ribemont made sections of frozen fœtuses, which had first been put into a state of forced rotation as above described, and he found that the rotation took place not only in all the cervical column, but also in the dorsal region down to the seventh dorsal vertebra. On account of this known action, it was proposed to employ the forceps in occipito-posterior positions when the head arrived at the perinæum and the rotation was not accomplished. Dr. Budin was lately able to make this new application of the forceps with complete success for the mother and child, and thus to give a practical demonstration that there may be a considerable degree of rotation of the fœtal head, and that an accoucheur can bring about this movement in certain cases, without fear of a dislocation of the cervical column and death of the fœtus.

While upon obstetrics, I must speak of an extraordinary pamphlet that has just been published by the Abbé Moureau, entitled "The Administration of Baptism, for the use of Physicians and Accoucheurs." It sets forth, in the form of a catechism, the duty of all doctors in regard to baptizing unborn infants who may be in danger of imminent death. It is much too long for entire quotation, but some extracts may be given. The accoucheur's duty, it seems, is to baptize the child the moment he knows that its life is in danger, *in utero* or not, in instances, of course, where a clergyman can not be sent for in time. Full instructions are given as to the method to be followed and the kind of water to be used, which should be pure and not contain more than a thousandth of any antiseptic substance. It is to be poured on the head of the infant when possible; otherwise on any other presenting part, while the physician says aloud, "I baptize thee in the name of the Father," etc. The bag of waters must be first broken, and when the doctor is not sure that the child is living and he intends doing an operation (craniotomy, etc.) that will destroy it, he should then preface his usual formula by saying, "If thou art alive I," etc. This curious little book was prepared at the request of certain religious societies.

I can not resist speaking of a question of obstetrical science that was treated lately by a writer in a daily paper, "Le Temps." It is in regard to anæsthesia during labor. From a religious point of view, a woman has no right to endanger her own life and that of her child to escape pain, and she is enjoined to remember the verse that says "Thou shalt bring forth in pain," etc. A lady replies to this with much spirit and wit, if but little faith. She says: "You just make me yawn with your verses that oblige poor woman to support the pains of labor without trying to remedy them in any way. There was a man, once upon a time, who brought forth, but he was put to sleep to do it. Open your good book again and you will see that the Creator, having to take a rib from Adam to create Eve, executed this operation while our great ancestor was asleep."

Dr. Fernet has been using camphorated naphthol in the topical treatment of tuberculous ulcerations, and has met with considerable success. Cases of tuberculosis of the tongue which had been treated with energetic cauterization without any relief were rapidly modified by the camphorated naphthol, applied only once a day for a week. If we accept the opinion that tuberculosis may commence in certain cases by a local peripheral malady, which is afterward followed by general infection, the importance of curing the local manifestations is evident, and, even if we think that lingual and other symptoms are secondary to lung and other trouble, a means of treating them with success is much to be desired, and seems to be found in *naphthol camphré.* It may be mentioned also that naphthol is coming into use very much in the Paris hospitals in the treatment of boils, ten parts of naphthol being used to twenty of glycerin for local application.

The Academy of Sciences presents a report on a new drug, exalgine, or orthomethylacetanilide, which has an analgesic action much superior to that of antipyrine.

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## THE TABETIC EYE.

Before the Société de médecine de Paris, M. Trousseau lately read an interesting paper upon this subject that appears in the "Union médicale" for March 9, 1889. The ocular symptoms of tabes, he says, are important in exact proportion to a knowledge of their special characteristics and relations to the disease that causes them. Whether they serve to trace the malady or to confirm a doubtful diagnosis, they are equally valuable, and should receive the most careful study.

Fournier has noted eye troubles in thirty-four out of two hundred and twenty-four cases. This proportion is probably smaller than actually exists, for many patients present ocular phenomena perceptible only to the physician, and of which they themselves do not complain. These insidious manifestations are especially helpful in discovering the disease during its early stages. Certain conditions belonging to the pre-ataxic state have been set down to syphilis pure and simple, owing to ignorance concerning ataxia, and to the fact that so frequently an antecedent history of syphilis is given. According to Galezowski, in nine cases out of ten, tabetic affections of vision are due to syphilis alone. Of thirty cases investigated by the author, twenty-five presented unmistakable evidences of this disease, two were doubtful, and in the three others the patients had never been inoculated.

The eye muscles, the iris, and the optic nerve are the tracts most apt to be affected, but they are not the only ones. In 1886 Pétrolacci, of Montpellier, wrote a thesis on ataxic lacrymation. Feré had under observation a patient in whom attacks of circumorbital pains of lightning-like character and unilateral lacrymation appeared and disappeared with equal suddenness, and in ataxic subjects disseminated circumorbital anæsthesia is of frequent occurrence. Berger has called attention to the diminished ocular tension during the paralytic stage.

Ophthalmic migraine, with its scotoma and hemianopsia, the author thinks may be allied to tabes, for he has observed two patients in whom frequent attacks of this sort accompanied the pretabetic period. One of the unfortunates retained this inconvenient symptom. As a general thing, not enough importance is attached to ophthalmic migraine as a precursory sign of ataxia.

The eye muscles are often paralyzed during the course of the disease, sometimes at the beginning and sometimes toward the end. This seems to have no clinical connection with optic atrophy. In other words, it is unreasonable to conclude from the presence of muscular paralysis that the patient is predisposed to optic atrophy. In six hundred cases of atrophy, Galezowski has encountered, before or during the course of profound ataxias, two hundred in which muscular paralysis existed. This simply illustrates a certain relative frequency, but can not be looked upon as bearing a very close relation. The lesions are of a different order. The prognosis is of a fatal nature in papillary atrophy, while muscular paralyses are curable. When, however, such paralyses are joined to pupillary disturbances, it is safe to affirm the probability of tabes. In the pre-ataxic stage, when the diagnosis is doubtful, the presence of these united signs is of chief importance. Ocular paralyses vary in character according to the stage of the spinal-cord affection. At the onset they are for the most part simple forms of paresis (diplopia without strabismus), developing and disappearing readily enough, sometimes instantaneously and without treatment, and returning suddenly at times. They may affect one or several muscles at the same time or in succession. These are the peculiar phenomena formerly considered distinctive of syphilis. But they are certainly rare except in the syphilitic patient who is a candidate for ataxia.

The muscles that move the ball may be attacked, and also those of the lid, causing the slight narrowing of the palpebral fissure that Berger notes in ataxic subjects. The ptosis that exists in other cases has a similar origin, as well as the paralysis of the levators of both sides seen by Déjérine. It is impossible to fathom the cause of phenomena so *bizarre* in any brief survey of the subject. They may be due to irritation simply; to nuclear scleroses; to sclerosis of the vertebral artery and its branches, as Schmeichler suggests; or to peripheral neuritis, according to Déjérine's theory; or, let us say with Brown-Séquard, considering the flitting character of these motor paralyses, they have a cause as yet indefinite.

The pupil of the tabetic eye is a source of much valuable information. There may be single or double myosis of the pinhole variety, rendering an examination of the fundus extremely difficult; or mydriasis may exist, most frequently on one side only. Sometimes there is paralysis of accommodation without mydriasis, in which case Galezowski has noticed circumorbital anæsthesia. In some cases light does not affect the pupil, but its reaction in accommodation is normal. In others, on the contrary, the Argyll-Robertson pupil in itself is a guide to a correct diagnosis. Berger calls attention to an elliptic deformity of the pupil. The tabetic eye is also subject to an affection of the gravest moment, to wit, atrophy of the papilla. Erb notes it in twelve out of a hundred cases; Mœli, in thirteen in a hundred; and Schmeichler finds it forty times in a hundred cases. Its chief characteristics are steady progress and the well-known appearance that the ophthalmoscope reveals. The grayish color of the papilla has been alleged as a pathognomonic sign of ataxia. Clinically, this fine distinction can not be admitted. It is not rare to come across ataxic papillæ that are very white. While the papilla is progressively losing its normal color—indeed, before there is any change in the tint—there is narrowing of the field of vision, which is preceded by a diminution of color perception according to the following order: green, red, blue. At the same time there are lacunæ and scotomata in the visual field. Abadie finds this a characteristic picture of ataxic atrophy. Charcot points out the fact that sclerosis of the optic nerve may precede typical ataxic phenomena and betoken them a long time in advance. Whatever the period of its appearance, it condemns the unhappy victim to a certain and total blindness that can not be delayed or relieved.

### LABORATORY WORK AND MEDICAL PRACTICE.

It is in the matter of the building, equipment, and maintenance of laboratories that our means for furthering medical study are mainly advancing in this country. Almost every one of our large schools now has laboratories for the study of chemistry, embryology, histology, physiology, bacteriology, and other special branches of knowledge that should underlie the pursuit of medical learning in its strict sense; and the prominence with which they figure in college announcements has almost come to eclipse that with which the clinical facilities of the schools are set forth. Moreover, the laboratory teachers are accorded a far more exalted station than their prototypes, the old demonstrators of anatomy, were in times gone by. In short, this is the age of laboratories. The reason of this state of things is not difficult to perceive. Laboratory work is not a mere "fad," nor are the laboratories of the present day simply manifestations of the evolution of the old dissecting-room. So many of the questions on which the medical doctrine, and consequently the medical practice, of the period turns are of a nature to be settled only by laboratory study that laboratories are established and kept up as a matter of necessity. That they have before them many a problem of prime importance to struggle with can not be doubted; the medicine of the future is unquestionably to be founded in great measure on laboratory research. It is not to be wondered at that the brightest of our young men, perceiving this state of things, are in many cases ambitious of distinction in laboratory work rather than in the clinics.

Yet it must be confessed, we think, that laboratory work, while it calls for acuteness and for methodical ways, makes no such demands upon the intellect as are encountered in the pursuit of pure excellence in medical practice—in the diagnosis, prognosis, and treatment of disease. It is true that the art of diagnosis is largely reached by proficiency in chemical and microscopical examinations and by skill in other ways of detecting objective signs; it is also true that the treatment of disease calls for a considerable development of precision in the use of the senses and of means that must be regarded only as their adjuncts; but in the matter of prognosis, which Trousseau held to be the truest test of medical skill, the problems are such as tax the understanding and the judgment almost exclusively, and their solution is not to be furthered in any great degree by mere technics. But all kinds of knowledge are useful, and knowledge obtained by his own laboratory study is far from superfluous in the physician's every-day work. Still, those who occupy themselves for the most part in such study labor chiefly to bring forth material that is afterward to be fashioned into useful shape by the clinicians, and must be content if it conduces in but slight degree to their own excellence as practitioners. Hence some self-abnegation is involved in the devotion of one's life to laboratory work, though there are doubtless compensations of no mean magnitude. It is not unfair, therefore, that laboratory workers should be accorded the dignity to which allusion was made at the outset, but it should not be forgotten that, as one star differeth from another star in glory, credit is to be attained both in the fundamental research of the laboratories and in the vivification of bare facts by applying them in medical practice; the one is complementary to the other, and neither exceeds the other in importance.

## MINOR PARAGRAPHS.

### PRENATAL BAPTISM.

Probably there are few physicians of much experience in the practice of obstetrics who have not occasionally been asked to baptize an unborn child. As it is not always possible to make out the child's sex at the time of the baptism, it has happened that the name of John or Thomas or some other equally decided masculine appellative has been given to a girl, and in some instances the girl so named has survived. This has led to the device of pronouncing a name that may afterward be written either Francis or Frances, as the exigencies of the case may require. We trust that in the Abbé Moureau's pamphlet on "The Administration of Baptism, for the Use of Physicians and Accoucheurs," mentioned by our Paris correspondent, there may be found set forth some way savoring less of quibbling than this clumsy refuge. The Abbé's sanction of baptism as a preliminary to craniotomy is remarkable, for it might be interpreted as sanctioning craniotomy itself, whereas the Church of Rome has heretofore set itself steadfastly against that operation, and its teaching has doubtless had a material influence in bringing about such life-saving devices as the improved Cæsarean section, laparo-elytrotomy, and Porro's operation.

### GROSSER'S THERAPEUTICAL NOTES.

One of the liveliest of our German contemporaries, the "Deutsche Medizinal-Zeitung," is edited by Dr. Julius Grosser. Dr. Grosser is doing a service to all physicians who read German by the publication, in the form of a free supplement to his journal, of an alphabetical arrangement in book-form of the *therapeutische Notizen* that have appeared in the "Zeitung" from 1880 to 1889, the first part of which, a pamphlet of eighty pages, carries the headings as far as *Gelenkentzündung.*

### THE DEMONSTRATION OF SOLUBLE PATHOGENIC SUBSTANCES IN BACTERIOLOGY.

Three years ago we spoke at some length of a communication made to the Biological Society of Washington by Dr. D. E. Salmon and Dr. Theobald Smith, crediting those gentlemen with having taken an early and prominent part in the discovery of soluble pathogenic substances in bacteriological cultivation liquids. That communication and others made by Dr. Salmon on the same subject seem to have been denied their true importance by certain French writers, who give the credit of substantial priority to the workers in M. Pasteur's laboratory. A review of those criticisms, by Dr. Salmon, is published in volume xxxvii of the "Proceedings of the American Association for the Advancement of Science." They rest chiefly on the allegations that Dr. Salmon's accounts of his experiments were practically unknown and inaccessible in France and that they were not convincing. Dr. Salmon seems to us to have met both these allegations successfully, and to be justified in still laying claim to priority in the discovery.

## A SOURCE OF ERROR IN THE DIAGNOSIS OF RENAL CALCULUS.

At a recent meeting of the Philadelphia County Medical Society Dr. W. W. Keen gave an interesting history of a case in which nephrectomy had had to be abandoned after being attempted by the lumbar incision. At the necroscopy some calcareous vessels were found in the kidney and one or two points of calcification of the other tissues, and it was against one of these that a needle inserted for diagnostic purposes during the operation was supposed to have struck and given rise to the conclusion that the kidney contained a calculus. Dr. Keen states that it gave precisely the sensation that a stone would have given, and that he does not remember ever to have seen such a source of error noticed. The impossibility of removing the kidney was imputed to its inflammatory attachments. It was found to be the seat of a primary sarcoma.

## THE WEIGERT TREATMENT OF CONSUMPTION.

More or less has been written of late about the germicidal treatment of consumption by means of inhalations of hot air, and a circular has been distributed in New York giving a translation of a report published in the "Internationale klinische Rundschau" of certain remarks on the use of Weigert's apparatus for the purpose, made before a medical society of Halle by Dr. Kohlschütter. In our issue for March 23d we gave the substance of an article on a matter bearing upon the subject, but without special reference to Weigert's apparatus, by Herr Halter, who recommended both the inhalation of heated air and the use of hot-air baths, but gave a caution against the employment of the latter in the cases of patients who were feverish or affected with hæmoptysis. Herr Kohlschütter speaks very favorably of Dr. Weigert's apparatus, and considers it well worthy of trial.

## NATURAL AND ARTIFICIAL CARLSBAD PRODUCTS.

In our issue for April 6th we mentioned a suit at law brought by the Eisner & Mendelson Company against Mr. Carl H. Schultz, and alluded to Mr. Schultz's statement as to a former fraudulent practice by the municipality of Carlsbad in the matter of Sprudelsalz. We do not understand Mr. Schultz to have charged that any such practice was continued at the present time, and we have no reason to doubt that the Sprudelsalz now furnished from Carlsbad is really made by evaporating the natural waters. As to the statement that the Carlsbad waters soon spoil after being bottled for exportation, and that therefore the artificial waters are to be preferred, the question involved seems to be one that the chemists ought to be able to settle beyond cavil.

## RANDOM DISCUSSIONS IN MEDICAL MEETINGS.

The tendency to stray from the point in medical discussions is still far too often manifested. Occasionally the individual whose remarks gave rise to the discussion has the good sense to rebuke the random talk that has passed under that name. Dr. G. Betton Massey did so at a recent meeting of the Philadelphia County Medical Society. He had shown an elastic intra-uterine electrode, whereupon a number of gentlemen made more or less wandering remarks on the general utility and dangers of treating various conditions by means of electricity, but said hardly a word as to the quality of the instrument shown. Dr. Massey seems to have shown no annoyance or displeasure, but simply to have remarked that he had had no idea that the presentation of his electrode would lead to such a discursive discussion.

## ANOTHER "SURE CURE" EXPOSED.

The "Western Druggist" makes an *exposé* of a nostrum, known as Haine's golden specific for drunkenness. The advertisement of this arrant fraud has been accepted by certain reputable periodicals in New York State, without due inquiry. The nostrum is composed of red pepper, ginger, and the root-bark of bayberry, and it is alleged that it can be added to the coffee or tea of the inebriate, without his knowledge, and that he will never know what cured him. As these catchpenny concoctions dread the light of medical publicity, this exposure may serve a good purpose.

## EXPERT TESTIMONY AS TO DEATH BY POISON.

The Supreme Court of Wisconsin has recently formulated a rule of testimony according to which, when a trial for murder by poisoning is on, any physician whose only knowledge of poisons is that which has come to him from books and college training is not competent to give an opinion relative to the symptoms of the final illness of the deceased with regard to their probable causation by poisoning. This is probably the first time that any court has prescribed such a regulation, but it has so much in its favor that we count upon its gradual extension from court to court as questions arise in regard to poisoning cases. No person may justly be put in jeopardy of his life on the quasi-expert testimony of a witness who has gleaned all that he knows of the subject from the printed page or half-remembered lecture.

## HYPERIDROSIS AMONG SOLDIERS.

An official circular, addressed to Prussian army surgeons respecting excessive sweating of the feet and other parts among the soldiers as an affection demanding treatment, advises the use of chromic acid as an efficient and economical application; of the strength of one part in ten of water. In cases of hyperidrosis of the feet such a ten-per-cent. solution, applied at intervals of three, four, or six weeks, has proved sufficiently strong to remedy this source of disability. From the point of view of military hygiene, the prophylaxis of this affection is not merely a question of discomfort and inconvenience, but has its relations to the efficiency of the service, since all soldiers having hyperidrosis will be more or less prone to recurrent catarrhal troubles and to the evils attendant thereon. Hyperidrosis of the feet, moreover, will impair the marching capabilities of the men having that infirmity.

## ITEMS, ETC.

**The Clinical Society of the New York Post-graduate Medical School and Hospital.**—The seventy-fourth regular meeting of this society will be held in the old amphitheatre of the school this (Saturday) evening at 8.15 o'clock. Dr. James K. Crook will read a paper on the subject of "Cough and Cough Remedies," to be discussed by Dr. Fowler, Dr. Satterthwaite, Dr. Burt, Dr. Shufelt, and others. Dr. Andrew H. Smith will preside.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 16, 1889:

| DISEASES | Week ending Apr. 9. | | Week ending Apr. 16. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 8 | 0 | 10 | 2 |
| Scarlet fever | 442 | 59 | 478 | 54 |
| Cerebro-spinal meningitis | 4 | 4 | 1 | 1 |
| Measles | 171 | 15 | 184 | 19 |
| Diphtheria | 210 | 50 | 197 | 56 |

**Baron Pasteur** has already been decorated not fewer than fifteen times, and of these decorations only one came from his own countrymen. All the others are testimonials from foreign rulers to the value of his scientific achievements to the world at large. He is one of the very few great benefactors who have been honored according to their deserts during their lifetime.

**The College of Pharmacy of the City of New York** held its fifty-ninth annual commencement exercises on Tuesday evening, the 16th inst., at Steinway Hall.

**St. Elizabeth Hospital.**—The trustees announce to the medical profession that they have re-opened the hospital and are prepared to receive patients. The medical branch of the institution will be under the supervision of Dr. H. Marion-Sims. Patients will be nursed by the Sisters of the Third Order of St. Francis of Assisium. As yet no provision has been made for the care of male patients who are *confined to bed*, but physicians are at liberty to place men in charge of such patients. Any physician in good standing may send patients to this institution, but the trustees, through the superintendent and medical director, Dr. Sims, reserve to themselves the privilege of refusing admittance to the patients of any physician not acceptable to the trustees. Unless known to the medical director, or indorsed by one of the consulting board, physicians desirous of sending patients here must make application through the medical director. Otherwise, arrangements may be made directly with the superintendent at the hospital, 223 and 225 West Thirty-first Street. The reason for these limitations is to prevent abuse of the broad privileges of the hospital. Patients coming to the hospital, and having no physician, will be placed under the care of the house physician, Dr. W. R. Pryor. The following gentlemen have consented to lend their indorsement to the hospital, and act as its consulting board: Dr. E. L. Keyes, Dr. F. N. Otis, Dr. James B. Hunter, Dr. J. E. Janvrin, Dr. E. G. Janeway, Dr. R. C. M. Page, Dr. John A. Wyeth, Dr. H. Marion-Sims, Dr. C. C. Lee, and Dr. R. F. Weir. Patients suffering from contagious diseases and insane or otherwise violent patients will not be received.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 7 to April 13, 1889:*

Byrne, Charles C., Surgeon, U. S. Army, promoted Surgeon, with the rank of Lieutenant-Colonel, to rank from March 29, 1889.

Munn, Curtis E., promoted from Assistant Surgeon to Surgeon, with the rank of Major, to rank from March 29, 1889.

By direction of the President, Captain Paul R. Brown, Assistant Surgeon, will report in person to Brigadier-General John R. Brooke, president of the Army Retiring Board at Omaha, Neb., for examination by the board. Par. 9, S. O. 80, A. G. O., Washington, April 6, 1889.

By direction of the President, the State of Wisconsin is transferred from the Department of the East to the Department of Dakota. G. O. 36, A. G. O., Washington, April 6, 1889.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending April 13, 1889:*

Marsteller, E. H., Passed Assistant Surgeon. Ordered to the U. S. S. Adams.

Stitt, E. H., of South Carolina, commissioned Assistant Surgeon, U. S. Navy.

Gates, M. F., of Pennsylvania, commissioned Assistant Surgeon, U. S. Navy.

Boyd, J. C., Surgeon. Detached from the Bureau of Medicine and Surgery, Navy Department, and ordered to the Yorktown.

Gates, M. F., Assistant Surgeon. Ordered to the Navy Yard, Philadelphia.

Heffenger, A. C., Passed Assistant Surgeon. Found unfit for duty at present, by Retiring Board, but not permanently incapacitated for active service, and granted one year's leave of absence for medical treatment.

DuBose, W. R., Passed Assistant Surgeon. Detached from the U. S. S. Constellation and ordered to the Practice Ship Jamestown.

Lowndes, C. H. T., commissioned an Assistant Surgeon in the U. S. Navy. March 13, 1889.

**Society Meetings for the Coming Week:**

Monday, *April 22d:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *April 23d:* Medical and Chirurgical Faculty of Maryland (Baltimore—first day); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Medical Society of the County of Putnam (quarterly), N. Y.; Hunterdon, N. J., County Medical Society (Flemington); Litchfield, Conn., County Medical Society (semi-annual).

Wednesday, *April 24th:* Medical and Chirurgical Faculty of Maryland (second day); South Carolina Medical Association (Charleston); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Auburn, N. Y., City Medical Association; Medical Society of the County of Albany; Berkshire, Mass. (annual—Pittsfield), and Middlesex, Mass., North (annual—Lowell), District Medical Societies; Gloucester, N. J., County Medical Society (quarterly); Philadelphia County Medical Society.

Thursday, *April 25th:* Medical and Chirurgical Faculty of Maryland (third day); Texas State Medical Association (San Antonio); New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children); New York Orthopædic Society; Brooklyn Pathological Society; Hartford, Conn., County Medical Association (annual); Roxbury, Mass., Society for Medical Improvement (private—annual); Cumberland, Me., County Medical Society (Portland); Pathological Society of Philadelphia (conversational).

Friday, *April 26th:* Medical and Chirurgical Faculty of Maryland (fourth day); Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private—annual); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *April 27th:* New York Medical and Surgical Society (private); Worcester, Mass., North District Medical Society (annual—Fitchburg).

## OBITUARY NOTES.

**Jerome Henry Kidder, M. D.**, formerly of the medical corps of the navy, died at his home, in Washington, on Monday, the 8th inst., aged fifty years. Dr. Kidder was a native of Maryland, and took his medical degree from the University of Maryland in 1866, having previously been graduated in arts at Harvard University. He served in the navy from 1866 to 1882, much of the time in capacities for which his knowledge of the natural sciences made him specially fitted. After resigning from the navy he served in the United States Fish Commission. Dr. Kidder was a man of remarkable efficiency in the various stations in which he served the Government, and endowed with qualities that made him highly esteemed and liked by those with whom he was brought into contact.

**Samuel W. Gross, M. D.**, of Philadelphia, a son of the late Dr. Samuel D. Gross and his successor as professor of surgery in the Jefferson Medical College, died on Tuesday, the 16th inst., at the age of fifty-two years. The deceased was a native of Cincinnati. He was widely known in the profession as a laborious worker in certain special fields of surgery, notably that of mammary cancer, on which he was the author of a treatise, as an excellent teacher, and as a genial man.

**William Girdner, M. D.**, of Greeneville, Tennessee, died on Sunday, the 14th inst., at the age of eighty-one years. The deceased, who was the father of Dr. John H. Girdner, of New York, had been in the continuous practice of medicine for fifty-five years, and retired only a few months ago.

# Proceedings of Societies.

## NEW YORK ACADEMY OF MEDICINE.

*Meeting of March 7, 1889.*

The President, Dr. Alfred L. Loomis, in the Chair.

**The Treatment of Acute and Subacute Nephritis.**—Dr. Francis Delafield, in a paper with this title, gave a *résumé* of the methods of treatment in these conditions advised by a French, a German, and an American authority, respectively; he also endeavored to determine how the various known drugs and plans of treatment were to be used so as to suit particular cases somewhat more accurately than had hitherto been done in the profession; he had no new drug or therapeutical measure to offer. The object to be kept in view was not to remove any of the symptoms (considered in themselves), but to cure the disease as comfortably and as speedily as possible, or else to prolong to the utmost the patient's power to work or enjoy.

The French writer quoted made the favoring of diuresis the most important indication, and thought this was best accomplished by a strictly milk diet. Dropsy and moderate vomiting could be left to themselves. Uræmic attacks were to be met by active measures, such as chloroform inhalation, and, in case of coma, oxygen inhalation. The German writer (Strümpell) added to this the use of diaphoretics and cathartics, and treated dropsy by sweating and puncturing. The American author (Flint) also advised attempting to remove the excess of urea by diuretics as well as by the skin and intestines, and the dropsy by the same means; he sought to diminish the amount of renal inflammation by dry cups and hot fomentations over the kidneys.

Most other authors agreed in making it the main object to prevent the accumulation of excrementitious substances in the blood; some believed the kidneys could be rested by having their work performed vicariously by increasing the activity of the skin and intestines; and some believed that the ingestion of fluids in amount could wash out the products of renal inflammation. Morphine and digitalis were advised by some in larger or smaller doses, in this or that stage of the disease, and by others their use was as strongly deprecated. Bloodletting was generally restricted in its employment to the nephritis of pregnancy, or to acute attacks in which cerebral symptoms and fever were marked. Thus, generally speaking, the symptoms of the nephritis received a major share of attention, and the nephritis itself did not. He would direct attention from an opposite point of view to the kidneys themselves, and consider the general condition which resulted under the separate heads of acute and subacute nephritis, as differences of the widest sort existed between the two.

The speaker then reviewed the pathology of acute nephritis, its symptoms and its course. In very mild cases no treatment was required beyond confinement in bed and a fluid diet. In severer cases the fever, prostration, loss of appetite, and vomiting all required no active medicinal interference, and the anæmia, though it was well to prevent its development so far as possible, was not to be attacked by drugs until convalescence became established. The nephritis itself and the cerebral symptoms (caused by contraction of the arteries and increased arterial tension) alone needed active treatment.

It was to be remembered that in nephritis, though the quantity of urine voided was small, its quality was good; that its secretion by the inflamed kidneys tended to relieve their congestion, so that they were better off than if at rest; and that a considerable diminution in the amount of urine could be well borne for a week or two. Convulsions and coma belonged, it was true, to the early stages of nephritis with scanty urine, but prolonged anuria produced rather a typhoid state. It was, then, not well to pay much attention to the diminution of urine; it was better to relieve the congestion of the kidneys so far as possible, and enable them to do their own work, which latter would of itself still further reduce the amount of congestion in them. The nephritis would continue, but the excretion of urea might meanwhile be ample.

The congestion of the kidneys could be relieved for short periods by applying heat to the entire surface of the body, by cuppings and hot applications over the kidneys, by the frequent use of small doses of calomel or sulphate of magnesium until the bowels began to move, and by drugs which lowered the arterial tension. The latter (chloral, opium, and aconite) in small doses were also to be used in case of the occurrence of cerebral symptoms.

The speaker's routine treatment consisted of confinement to bed and a fluid diet, daily washing of the entire skin, and the giving of drachm doses of sulphate of magnesium every hour for two days, or till an ounce was taken, or till the bowels were moved. He expected to see the albumin in the urine lessened within a few days, the pulse soft, the dropsy gone, but a condition of anæmia quite noticeable. Solid food was then gradually introduced in place of milk, and iron and oxygen were given.

In subacute nephritis the thing at fault in the performance of the renal function was not the quantity of urine (for this was often excessive) but its quality. That is, as the disease went on the proportion of solids became constantly less, and the symptoms were largely due to the effects of the nephritis on the composition of the blood and on the bodily nutrition. Anæmia, dropsy, and loss of strength were the prominent symptoms. Cerebral symptoms were more of the chronic sort. Recovery was not to be expected here, though intermissions and a very slow course were frequently met with. The conditions demanding treatment were: 1. The nephritis itself. 2. The nutritive changes. 3. The dropsy. 4. The arterial state. 5. The cerebral symptoms. 6. Acute attacks or exacerbations.

For the nephritis an outdoor life in a warm climate was the best treatment. In a cold climate these patients must stay indoors most of the time. The diet should ordinarily consist of solid foods and of fats. Excess in the use of mineral waters and of milk was to be avoided. Opium and the bichloride of mercury might be of some benefit. For the anæmia his remedies were the inhalation of oxygen, iron internally, massage, and the relief of constipation. Where the regulation of the diet and of the fluids drank, and the treatment of the anæmia, did not relieve a dropsy, and the latter was a cause of real distress, such measures as purging, sweating, and puncturing might be employed; but this would be necessary only in unfavorable cases. The point to keep in mind was that it was not well, when a patient was secreting about seven grains of urea to the ounce, to increase the amount of urine passed beyond what would enable the patient to secrete his normal five hundred grains of urea per diem. The amount of fluids taken should not exceed the amount of urine passed.

It was not well, in his experience, to increase a low arterial tension by digitalis or ergot. Increased arterial tension should be relieved at once, as the condition of the arteries and the excretion of urea seemed to determine the severity of the cerebral symptoms.

Dr. T. E. **Satterthwaite** thought that there were several distinct states complicated with a nephritis which might give the same symptoms. In but a few cases was the nephritis a primary lesion; it was ordinarily due to any one of several dyscrasias. Examination and classification must therefore precede determination of what the appropriate treatment was in any case. Much experience and a certain amount of trial in individual cases were needed. He believed vomiting was in some cases salutary. He had seen pilocarpine save some lives, but put others in danger. If it was used, the symptoms of poisoning should be looked for and met promptly in case they appeared. A number of other remedies might be called for in special cases depending upon other conditions present.

Dr. A. **Jacobi** thought that Dr. Delafield had said everything in his paper that was of salient importance, and had made a better because a simpler subdivision of the forms of acute and subacute nephritis than the seven or nine forms which Dr. Satterthwaite recognized as needing to be clinically distinguished. He differed with Dr. Delafield in a few points in regard to treatment; thus, as to what he had said about using caffeine as a heart tonic in uræmic conditions. The speaker had found that whenever there was a condition of cerebral hyperæmia, caffeine was certain to do harm, no matter whether this congestion was active or passive, and on this account he had abandoned its use. It must certainly be contra-indicated in all cases in which lessening of the blood supply to the head was of benefit. Only recently he had produced complete relief in a case of uræmic coma by applying leeches to the septum of the nose, and caffeine here could only have made the condition worse.

In subacute and chronic nephritis the influence of the bichloride of mercury was, beyond a doubt, excellent. He had employed it in all kinds of chronic interstitial inflammations in the various organs, in small doses, for long periods of time. He had seen patients disabled by cirrhosis of the liver recover a fair degree of health by the use of this remedy alone. In tabes, in cases at least of patients who held their ground, much gain could often be realized from this drug similarly employed.

Many cases of nephritis were not noticed while they were still amenable to treatment—cases that occurred not only after scarlet fever, but after measles and typhoid—and such could be cured by expectant treatment alone if taken in hand early.

In those forms of nephritis which came in the second half of life and were associated with vascular degenerations the addition of bromides to the general treatment was often of benefit; they seemed in old men to regulate a circulation disordered by atheromatous degenerations in the arteries. The use of digitalis was to be avoided in acute nephritis, as patients did better without it. If a heart tonic was required, sparteine would have all the good effects of digitalis without the bad ones.

Dr. F. P. **Kinnicutt** believed most cases of acute nephritis due to exposure or infection tended to recovery of themselves, and only needed rest in bed, a milk diet, and external warmth. He agreed that it was of most importance that we should modify the intensity of the inflammation in the kidney and the disturbance of the circulation. Sudden death from heart failure was not very infrequent in acute nephritis without there being uræmia at the time, and in these cases a marked dilatation of the left ventricle had been found by Dr. Goodheart, of Guy's Hospital, London, showing that the heart had become completely exhausted by the effort of pumping the blood through closely contracted capillaries and arterioles. On this account he never gave digitalis, but used as heart tonics either strophanthus or sparteine together with nitroglycerin.

Dr. J. W. **Roosevelt** remarked that in subacute nephritis we found in different patients a number of very different indications; thus in a certain class a high arterial tension was a source of much danger, not in itself, but by causing the heart to become overworked. However, to relieve this condition by using drugs to dilate the capillaries was of value only as a temporary expedient when immediate danger threatened. The treatment which could give real relief must in his judgment be that which re-established the flow of urine from the kidney. As Dr. Delafield had said, coma and convulsions were to be feared early in the disease, and in alcoholic patients, he would add, chiefly. In the long-lasting cases patients died in exhaustion with typhoidal symptoms, not in uræmia. The latter condition, then, was not due to suppression of urine, as was commonly supposed, even when long continued. He had observed that acute uræmic attacks came in two quite different classes of cases; in some patients coma and convulsions were accompanied by a high arterial tension, but in others sudden coma would be developed without any increase of arterial tension, and in these cases heart stimulants were of most service.

Dr. J. E. **Winters** said, in reference to Dr. Delafield's advice that patients with subacute nephritis should seek another climate, that, however desirable this might sometimes be, we had to do something for a large class of patients who either could not afford or were in no condition to go away from home. In these cases abundant exercise seemed to do the most good, especially when taken together with all natural means by which the flow of urine was found to be increased, for this was in his experience the best test of an improved condition. Whenever patients came under his care at the beginning—that is, suffering from acute nephritis—his first care was to keep them in bed for weeks running, or as long as the general nutrition could be supported under these conditions and the amount of albumin in the urine not become increased. Rest and keeping the functions of the skin active, together with a diet in which an excess of albumin was not present, were to him the most important elements in the treatment of acute nephritis. He allowed only the white meat of fowls, milk, and fish of delicate fiber, and encouraged the liberal use of fats and oils, especially cream and cod-liver oil, which he considered of great value. He doubted whether iron in the anæmia following nephritis had the same effect as in anæmia due to other causes; it had not seemed to him to improve the condition of patients to whom he had given it, appreciably. He agreed with Dr. Delafied that the escape of serum into the subcutaneous tissue and into the cavities of the body was apt to afford relief to the nervous and cerebral symptoms, and lessened the tendency to uræmia, as if some of the poison which the kidney could not dispose of was filtered out of the general circulation.

Dr. **Laurence Johnson** spoke strongly of the value of pilocarpine in acute nephritis; he had employed it for a number of years in the uræmia of pregnancy, and here his results had been most favorable. Thus a lady in the eighth month of gestation had been suddenly seized with uræmic convulsions, which had been repeated five times in the next six hours. On arriving at the house he had given the sixth of a grain of the hydrochloride, and had repeated the dose every twenty minutes for three doses, and had given the fourth after two hours and a half. It had caused profuse sweating without in the least enfeebling the action of the heart. After six hours there had been a free flow of urine. The remedy was also of use in the non-puerperal forms of nephritis. He had seen complete relief follow its use in coma accompanying acute bronchitis. There was no danger in using it in any recent case of nephritis occurring in a well-nourished patient, but, on the other hand, it was never to be given to weak and debilitated patients.

The **President** thought the first thing to be taken into consideration when dealing with acute nephritis was the general condition of the patient apart from the renal symptoms, as determined by his age, predispositions, and habits. The same treatment would certainly not be called for in an infant and in a man of fifty. However, as a rule, rest in bed, moderate purgation, and liquid diet were enough, unless the accumulation of excrementitious products was such as to threaten convulsions. For decreasing arterial tension he preferred calomel and the saline cathartics, and added counter-irritation over the kidneys and stimulation of the skin functions.

Subacute nephritis was a difficult thing to handle well. He had long opposed the use of any measures tending to deplete the patient, such as hydragogue cathartics. To improve the general nutrition should be the main object, and, he would add, iron did not do this. A change of climate was of an importance hard to overestimate. In regard to the giving or withholding of cardiac tonics, including digitalis, he would say that whenever, in subacute nephritis, the heart was found to be failing, we had a good reason for resorting to some form of cardiac stimulant, and continuing its use as long as it increased the absorption of excrementitious materials from the tissues and the production of urine. When the weakening of the heart was due to the accumulation of poisons in the system, rather than to degenerative changes in its wall, he knew of no drug which could keep such a heart at work as well as opium in small doses.

Dr. **Delafield** replied to Dr. Jacobi in regard to his having recommended coffee or caffeine. He had only quoted from a French writer who advised its use. As to the great value of the bichloride of mercury, he could only say that it was an old stand-by, and it was perhaps a rule to give it; but he had never been satisfied that it alone was likely to improve the patient's general condition, and thought it hard to say how much it really contributed to the result when other measures were brought to bear. He agreed with Dr. Jacobi that subacute nephritis following diseases other than scarlet fever was much more common than was supposed; also that many cases passed through their acute stage unnoticed. As to the relief of high arterial tension, it was necessary to distinguish between acute and subacute nephritis in the treatment. In the condition as it occurred in acute nephritis small doses of sulphate of magnesium or of calomel were to be given till the bowels began to move, and the relief so obtained could be maintained by the use of aconite. In subacute nephritis he would use the nitrites and chloral. While digitalis was not a good drug in acute nephritis, it could be used in the subacute cases under the conditions pointed out by the president. He did not agree with Dr. Winters in the importance he attached to the amount of albumin in the urine as a test of the severity of the disease. Just as in subacute pleurisy, albumin in the urine was an exudation accompanying an inflammation, and it varied in amount in different cases without strict reference to the temperature or the state of general nutrition in the body. The patient in either disease might be gaining every day, while yet the amount of albumin escaping at the site of the inflammation continued as large as ever. According to his experience animal food was suited to the majority of cases, and it was not important that the amount of it given should be gauged by the appearance of albumin in the urine. As to iron, he thought if the blood was tested for hæmoglobin, and if the number of its red cells was counted, it would appear that some good was accomplished by the use of iron in the anæmia of nephritis, although the immediate symptoms and appearance of the patient might not at once be altered.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN THEORY AND PRACTICE OF MEDICINE.

*Meeting of March 19, 1889.*

Dr. R. C. M. Page in the Chair.

**The Therapeutic Value of Systematic Passive Respiratory Movements.**—Dr. **Henry Ling Taylor**, in a paper with this title, called attention to that large class of both rich and poor in our great cities whom a fashionable, sedentary, or otherwise one-sided life had physically degraded. The competition among the head-working and commercial classes, and the real narrowness and monotony of city life, constantly resulted in producing a spindling or flabby physical type, diminished fertility, and stunted asymmetrical offspring. Restriction and irritation commonly combined in producing this unbalanced and unwholesome development of the organism. Important regions of the body, the shoulders, the back, the loins, and especially the chest, together with the thoracic and abdominal viscera, were certain to suffer from the restricted and feeble muscular activities of such classes in the community. Flat and narrow chests and diminished respiratory power, neuro-central tone, and vital energy or endurance were the common expression in the second generation of the imperfect circulation, assimilation, and innervation of parents whose activities were one-sided and excessive.

This condition of deficient chest power had long attracted the attention of physicians, and many efforts had been made to develop chest capacity and to increase respiratory action by gymnastic exercises (especially of the upper extremities), by voluntary deep breathing, by modifications of tension or pressure in the inspired air, and by other means.

All things considered, a prolonged outdoor life, combined with moderately active but varied exercise, furnished the best remedy for the class of cases under consideration. Gymnastic exercises, as ordinarily prescribed, were far from satisfactory as a means of attaining this special object. They were not adapted to the weak and feeble, and while the pulse and respiration were accelerated the lungs were not apt to be expanded; in order to push, pull, or lift with the arms, the breath was held to immobilize the thorax and give a fixed point from which the shoulder muscles might work. The increase of chest-measurement realized was frequently due mainly to muscular development. The respiratory capacity and the general endurance might at the same time remain stationary or be actually diminished. Judiciously used, gymnastic exercises *might* cause increase of breathing capacity by increase of demand for air, but, as a fact, the results showed that a scientific discretion in the use of clubs, dumb-bells, and pulley-weights was not easily taught to the majority of patients; and, moreover, as had just been said, gymnastics was out of the question with the very feeble. Benefits obtained from the inhalation of gases of various kinds (including certain advertised nostrums of this sort) he thought might be due mainly to the respiratory exercise involved. Voluntary deep and measured breathing could, no doubt, do much, but the irksomeness and the fatigue produced were a serious practical drawback. There was evidently a need for a method by which the chest could be expanded freely and regularly for considerable periods without fatigue—a means of automatically stimulating this automatic function.

Among the exercises based on the Ling system used by the speaker's father in 1856 was one in which the operator stood behind the patient on the bench upon which the latter was seated and lifted the shoulders (with the hands placed under the axillæ) at the same time that the patient's back was arched backward and supported against the operator's knee. In another movement the operator, standing as before, grasped the patient's hands and pulled the arms upward and backward against his resistance, after which the patient pulled down the hands of the operator until they lay in front of the chest. Since then a graduated mechanical resistance had been substituted for that made by the operator, and about seventeen years ago an apparatus called the respirator had been devised by which the most important of the passive movements was given by steam power, and with far greater efficacy than by the old hand method. The patient had only to lie on a couch which threw his body into the most favorable posture and grasp the handles of the levers of the machine, and inspiration and expiration would be produced at the rate and with the force which might be thought needful. This was continued for from ten to thirty minutes. The immediate effects had been found to be a slight increase of body temperature, an improvement in the circulation, a soothing of the cerebral centers, often to the point of drowsiness, a sense of fullness in the chest, and a feeling of invigoration or relief from weariness. After a course of treatment the color and circulation were usually permanently improved, the appetite and digestion were restored to the normal, the weight of thin patients as a rule was increased, and the sleep and nervous co-ordination of "nervous" patients were improved. The chest expansion was usually increased, but the effects of a course of treatment on the circulation and as a general or special tonic were more noteworthy. This increased expansion was usually obtained in two or three months and much of it remained, even if the treatment thereafter was very discontinuous. Gratifying results had been obtained in patients suffering from lateral curvature of the spine, from a flat, narrow, weak, or inelastic chest, from a phthisical predisposition, and from old pleuritic adhesions. Notable successes had been obtained in treating functional neurotics in this way, also delicate and overworked persons, especially women of flabby fiber and feeble respiratory power, the victims of backache, headache, neuralgia, dyspepsia, hysteria, neurasthenia, and uterine disorders.

The nervous centers as well as the circulation were affected by this and other forms of exercise or passive motion. Reflex effects of the most valuable sort could be obtained from passive motions similar to those secured by baths, massage, and electricity, but without the element of shock. In many respects the centers connected with respiration could be educated rather than stimulated into an activity by which the main vital processes would be carried on in a more efficient way.

Dr. Simon Baruch remarked that the results achieved in the practice of recent years from agencies such as Dr. Taylor had described had been quite insignificant and out of proportion in view of the labor which various men of ability had devoted to perfecting our knowledge of the therapeutic value of exercise, applications of water, and diet, scientifically regulated. He believed this had been due to lack of precision in their use. Physicians had too often paid no more attention to the first of these agencies, now so carefully graduated by men like Oertel, after telling the patient that he should "go out and take exercise." He commended the apparatus used by Dr. Taylor, and particularly because of its being one which could be adapted to the different capacities of various patients. His own device for giving increase and exercise of respiratory power was a simple but efficient one, consisting of a hickory stick a little longer than the extended arms, suspended by a rope fastened to its middle from the limb of a tree, so as to be just above the reach of the arms when the patient stood. Hanging from this rod with arms spread widely apart, and, in time, swinging to and fro, made an excellent exercise for increasing lung power which he had used in beginning phthisis. Another simple exercise of value for the same reason was to have the patient walk into the corner of a room with his arms extended, and consequently carried backward by the walls as he forced himself into the corner.

Dr. Louise Fiske Bryson referred to the belief of some investigators that every possible disorder could be traced to an original error in mechanics. The idea was strongly suggested when the effects of deficient normal respiration were considered. Not only on muscular but also on nervous and respiratory power depended the ability to perform all bodily exercises. Want of respiratory power was certainly either at the root or was an essential constituent of many morbid nervous conditions. Often, when of comparatively equal muscular ability, different persons showed marked inequality in respiratory power. Inspiratory exercises favored further muscular development, greater aeration of the blood, and increased control over nervous and muscular effort. In a case cited, no treatment for lithæmic neurasthenia had compared in efficacy to mechanical respiration, which promoted excretion and nutrition. There were other agents which stimulated and regulated reflex action—massage, baths, electricity, and hypnotism—but the respirator of Dr. Taylor seemed to the speaker superior to all other agents in certain cases, because no human agency was immediately visible. There were no manipulations made by an operator, nor was there personal contact with an attendant to engage the patient's attention or intensify insistent thoughts about himself. The easy, mechanical motions imparted soothed the patient and insensibly almost abolished volition, and soon he found himself becoming mechanical also. The source of the power one felt to be remote and not immediately operative. The speaker considered this absence of care or even thought and of a personal influence a noteworthy advantage of the respirator as a therapeutic agent.

Dr. A. B. Judson said that expansion of the chest by upward traction on the arms was illustrated in Silvester's method with the drowned. He had once seen an apt illustration in the dissecting-room of the effects of suspension by the arms. A cadaver had been drawn up through a shaft by a rope fastened to the hands. The lungs being thus extremely inflated, a long-drawn sigh had been heard as the body was laid supine on the floor. Dr. H. G. Davis, in the "American Medical Monthly," in 1856 and 1858, had called attention to the fact that the pectoral muscles made a connection between the humeri and the anterior surface of the chest, and that when the arms and the anterior ends of the long ribs were fixed by the hands grasping a bar overhead, the posterior ends of the ribs were drawn down by the weight of the lower part of the body, thus directly and forcibly expanding the chest. Another illustration was seen in the action of a patient suffering from asthma, who rested his hands and forearms on the back of a chair to minimize the effort required in breathing.

The respiratory brace of Dr. French, described in 1877 in the "Boston Medical and Surgical Journal" and the "Medical Record," was designed to support the shoulders and arms in the exhaustion of orthopnœa. The apparatus and movements described by Dr. Taylor expanded the chest by traction on the arms. The speaker was practically familiar with their use, and could confirm all that had been alleged for them. However, it seemed to him that much good could be obtained by carrying out the same idea, partially at least, with simpler apparatus.

Nothing could more perfectly meet the indications in a case of asphyxiation from any cause than Dr. Taylor's respirator, with its faithful copying of the movements of natural respiration, but simple suspension alone would expand the chest, and might facilitate breathing to such an extent as to secure excellent results. With the patient seated in a chair, the body could easily be put in partial suspension. Dr. Davis had prescribed suspension by the hands in the treatment of lateral curvature of the spine and also of phthisis; in either case there was much to commend the practice from a mechanical point of view.

He would discredit the use (especially by children) of Indian clubs, the health-lift, and similar exercises common in ordinary gymnastics, and much preferred those which included suspension by the arms. Expansion, not compression, of the chest would then be favored.

Dr. **Mary Putnam Jacobi** doubted if Dr. Taylor's system covered the most important indication in the class of patients who suffered from deficient respiration. The effects produced by external therapeutic measures, to be of value, should be conveyed along definite channels and to definite centers. Now, in gymnastic exercises, and in artificial respiration where the motions of extraordinary respiration were produced, the stimulus did not move along the same channels in which the impulses which conveyed ordinary respiration traveled; it could not, therefore, be supposed to reach the same centers or to have the same effect on the vital functions. In other words, respiration effected by the action of the pectoral muscles could hardly have the same general effects as that produced by heightened pressure in the air cells of the lungs, with the resulting increased action of the diaphragm. She therefore had more faith in the benefit to be derived from the inhalation of compressed air, as given by the Waldenburg apparatus. The normal respiration was then imitated in every way, and the same nerve centers must be reached by impulses conveyed along the same fibers in the vagus nerve as in natural breathing. The whole movement became intensified, as shown by tracings taken with the pneumatometer, both inspiration and expiration became more prolonged and deeper, and this continued to be so for a considerable time after treatment was over. This was a much more important result than an increase in the size of the chest, considered in itself. The amount of increase in the natural respiratory movement must be the test of the benefit likely to result from any measures taken in this direction.

Dr. W. B. **Wood** called attention to the large proportion of cases of pulmonary disease of one sort or another in the aggregate mortality of the present time. It was only within a year or two that he had noticed how large a part of our work lay in this field. Out of 800,000 deaths recorded in the whole country in a recent year, 290,000 had been caused by pulmonary trouble, or nearly two fifths; and probably twice as many suffered from such diseases during life, and died of other diseases. In New York, ten thousand out of thirty-six thousand deaths had been due to various lung affections; and in a recent record of one thousand children brought to a dispensary, one half of the disorders found to be present had been pulmonary. He believed there was more or less good in all the methods described for improving respiration, and was inclined to take from each what he could use in a particular case. In children under five or three years of age it was a question how far any of these methods could be carried out, and yet the time when many cases of phthisis could be cured came before the third or the fifth year. We were all going back further and further in our estimates of when this disease began. What to-day we called a predisposed condition to-morrow we called the early stage of development. If we were not able to get the process under control before bacilli appeared, we were far from being able to handle the disease.

One defect, to his mind, in respiration effected by passive motion was that the voluntary part was lacking, and he did not see that respiratory power or the habit of deep breathing would necessarily be gained in this way. By massage it was possible to make the muscles of a limb hard and well developed, while yet the mechanism of nervous volition remained so poorly developed that the limb was a useless one. There was, moreover, always a reaction from conditions of hypertrophy artificially produced in the body, and wherever we got reaction we should question the means used, and ask whether we were not going beyond the power of nature to supply. We did certainly see such reactions occurring after patients had received the Weir Mitchell treatment, after a course of massage, and after much exercise had been taken perforce. He believed the strength of the patient must be kept in mind; it was often sorely taxed in these respiratory motions. It was to him a matter of risk to begin any sort of treatment tending to increase the respiration until we were certain that the air passages, especially the nostrils, were in fit condition and the waist was allowed to resume its natural shape. Otherwise, disturbances of circulation and uterine displacements might result. As to the Waldenburg apparatus and the pneumatic cabinet, it seemed to him there was nothing in nature which warranted the forcing of air into the lungs.

Dr. A. S. **Hunter** agreed with all that had been said in favor of measures which increased the respiratory capacity, and considered the results obtained by Dr. Taylor with his "respirator" as very satisfactory. The speaker had obtained like results, and results at least equally pronounced, by the use of the pneumatic cabinet—another means of securing "systematic passive respiratory movements." The cabinet consisted of an air-tight box, in which the patient was placed and which was supplied with a mechanism for exhausting the contained air and so rapidly diminishing the atmospheric pressure against the chest-walls during inspiration. The air breathed by the patient was in the mean time conducted to his mouth by a tube leading to the air outside the cabinet. This tube was intentionally made smaller than the trachea. The patient was thus at once obliged and enabled to make a long, slow, and deep inspiration. Air was then rapidly readmitted to the box until the pressure within became equal to that outside, and the patient then made a prolonged expiration. If less air than enough to equalize the pressure was readmitted, the expiratory muscles could be given exercise in exhaling against the difference of atmospheric pressure. Some of the poorest breathers could thus be trained in a short time to exhale against a considerable pressure.

That large class of anæmic women with partly collapsed chests and undeveloped respiratory muscles, whose breathing was so rapid and superficial that they could scarcely complete a sentence of any length without an additional inspiration, could be greatly improved in all these respects. While they were in the cabinet the respirations could readily be brought down to fewer than eighteen a minute, and when they were out of it, before long they were able to take (and did take) long, deep, and rhythmical respirations, and to pause after each inspiration. This pause allowed the air in the lung to become rarefied. What had been gained in treatment was thus retained and the nutrient circulation of the lung was improved.

During two years past the speaker had employed this treatment in a number of inveterate cases of uterine disease in which all kinds of treatment of other sorts in the hands of various men had been ineffective. The results had been very satisfactory. The pneumatic cabinet at the same time taught and compelled and enabled a patient to breathe. A restoration of respiration had repeatedly seemed to him to supply a missing link in the chain of influences on which health depended. A number of women whom he had treated, previously unwilling to climb a single flight of stairs, had become enthusiastic walkers, having also gained in chest expansion, fullness under the clavicles, bodily weight, color, and nervous quietude. He believed the pneumatic cabinet the best means yet devised for accomplishing the purposes to which Dr. Taylor had addressed himself.

Dr. A. M. PHELPS wished to indorse every statement made by Dr. Taylor. There had been a time when a member would have been listened to with suspicion who spoke of Swedish movements, or the hydropathic treatment of disease, or the occasional usefulness of a phial of homœopathic pellets. He was glad to say it was not so now. Having traveled in Sweden himself and met the eminent men to whose labors the systemization of exercise was largely due, he had gained a very high idea of the possibilities in this field. Practice in these lines should not be left in the hands of masseurs and rubbers; it should be given by men of scientific attainments and training. Berlin, Baden Baden, London, and Frankfort-on-the-Main all now had institutions in which children were taken in daily and put under a *régime* of a sort calculated in each case to develop the thorax, muscles, and vital organs. He was glad to know phthisis was now being treated through the agency of motion —just the reverse of what was needed for recovery from tubercular deposits in the joints and elsewhere—namely, rest.

Dr. E. A. BRACKLOW took issue on what had been said about exercise in so far as it might be thought to derogate from the vast importance to be attached to it. Exercise was practically the only agency we had for combating the mortality to be charged to pulmonic diseases. The profession owed it to their calling to teach young people to employ exercise to good advantage, for, well used, it could do no harm. He believed this country had far fewer all-around athletes than some European countries. By this he meant men able to withstand exertion of any and every sort, in whom staying power was developed to a high point. We saw many such men in Germany and Sweden, especially in the societies of gymnasts or "turners" which they supported there, and revived here in America, and in which their children were introduced early, so that the effects of American city life might in some measure be counteracted.

Forced voluntary respiration had been spoken of as something impracticable because much of it was irksome. Could it not be taken, then, in divided doses? He could testify that increased chest expansion could thus be gained, with the other good effects connected with that change. Five or ten deep breaths taken a number of times daily would not tire or exhaust the patient.

Dr. KITCHEN asked whether Dr. Taylor considered his method of forced passive respiration a general tonic or a special stimulant to one function—the respiratory; and he desired another statement from him of what he believed the quality of its effect to be. He himself could not avoid recalling to mind the reaction and retrogression which succeeded to all forced developments, such, for example, as of the muscles or the voice. A public speaker in the intervals of a lecturing tour lost all the increase of voice which came while he made daily exertions in this line.

Dr. QUIMBY suggested that perhaps Dr. Kitchen and others failed to understand what the conditions to be treated really were; that is, what one had to do. He believed with Dr. Taylor that the improvement of the general nutrition was commonly of much greater consequence than any special development of any part or function of the body. In phthisis there was, from the first to the last, a contest between a bacillus and the protoplasm of the body. All means whatever, new or old—climate, fats, hot-air exercise or air pressure—were only useful in so far as they favored the general vitality of the patient, and aided his tissues in their combat with the enemy which had invaded the weaker portions of the economy.

He had the most faith in the pneumatic cabinet of any of the devices spoken of; not because of the changes it produced in the chest capacity, but on account of the general stimulation of circulation it effected. The blood was washed through the lungs and other organs, as the changes of tension were made, in a way which no other procedure brought about in a feeble patient. In his experience, the good effects had exceeded those which followed the inhalation of compressed air by the Waldenburg apparatus or passive exercises. The excretion of effete material and a more active nutritive process seemed to be set up by this effect on the circulation through the vital organs at the same time that abundant oxygen was brought in.

Dr. TAYLOR said that, while he could not enter into the subject of gymnastics or consider many other interesting points suggested by the paper, but not included in its scope, he did not wish to be understood as deprecating active exercises or voluntary deep breathing; he merely maintained that they did not satisfactorily meet certain indications. His aim certainly was not to overdevelop the chest, and he did not think it would be easy to do so in the patients he submitted to the respirator. The nervous patients took the exercise for a limited period of time and ran no risk of that kind. The respirator was not applicable in treating children under six years of age. Passive respiration was always taken in a loose jacket or wrapper, the corsets being first removed. He made it a rule that the patient should rest before and after the exercise, believing that to be an important point in securing the best results. He had not discussed the question of phthisis or recommended the use of the respirator in that disease. In youths with narrow chests whose near relatives had died early of phthisis, the method was indicated, especially where a free out-of-door life all the year round could not be followed. He did not believe that the exercise had more than a slight effect in developing muscle; it was not given for that purpose. He did not think the fact that all the gain in chest measurement was not in every case retained was a good objection; what was retained was worth striving for, and, as the paper had pointed out, the main advantage of the exercise was, after all, in its physiological effect, irrespective of gain in measurement. Whether or no the respiratory center was directly stimulated by Silvester's passive respiratory movements, as to which he had made no assertion, it seemed to him beyond question that certain higher nerve centers were stimulated by the respirator and their states profoundly modified in a way worthy of being therapeutically utilized, and this was to him the important and practical point. After all, the proof of the pudding was in the eating, and the respirator had stood the test of trial.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN SURGERY.

*Meeting of March 11, 1889.*

Dr. Robert Abbe in the Chair.

**An Operation on the Os Calcis.**—The Chairman presented a patient who, four years before, had received a lacerated wound in the heel by which a portion of the fleshy substance of its inferior surface was destroyed. A large and painful cicatrix had formed at the site of the injury, and walking had given the patient constant and severe pain, evidently due to the impact of the cicatrix against the rounded knuckle-like projection of the plantar surface of the calcaneum. As a plastic operation had been out of the question, it had occurred to him that relief might be obtained by sawing away a portion of the bone so as to obtain a perfectly flat surface inferiorly; this had accordingly been done; primary union had been obtained, and the patient was now able to walk on the heel thus flattened out without inconvenience.

**Hysterical Monoplegia in a Male.**—The Chairman also presented a young man about twenty-five years old in whom this condition was developed, the mild clonic spasm and its occurrence in a male patient making the case an uncommon one. This patient had fallen and struck on his back on a slippery pavement, had felt a sharp pain, and had at once lost full power to use the right leg. From this time on this limb had been affected with anæsthesia, the gait had been irregular, and if the patient lay down and moved the limb about, a clonic spasm appearing like an exaggerated tremor was at once produced. Any general effort produced violent trembling due to clonic spasm in the muscles of the neck and abdomen, and partial stoppage of respiration. Exquisite sensitiveness was complained of when a portion of the spinal column opposite the first dorsal vertebra was pressed with a piece of ice. However, the anæsthesia was diminishing, and when ether had been given, though the affected limb had remained weak while the patient was going under its influence, as he was coming out it had been used with the utmost vigor. It had become quite evident that the case was largely hysterical in its nature when it was also found that by suggestion the patient could be made to complain of the same pain in any portion of the spinal column touched with the ice as that which he had first felt. On being forced to run along the wards quite rapidly, he had used the affected limb freely and had not stumbled. Mild clonus was a rare affection, and had not been classified among any of the diseases of the nervous system. The monoplegia did not suggest a spinal paralysis. The condition present was probably then a hysterical neurosis, perhaps due to shock, and existing without the patient's being conscious that his own ideas were so largely the cause of it.

**Modified Tracheotomy.**—Dr. D. B. Delavan called attention to an expedient by which the ordinary operation of tracheotomy could be made much more satisfactory in its result to the patient. He had published an account of it several years ago, and had since used it repeatedly in his own practice to great advantage, but no notice of it had been taken by any one else in the profession.

The modification consisted in making a round opening in the trachea where it was desired to insert the cannula, cutting out with a small, sharp tenotomy knife a portion of two or more of the tracheal rings at once, instead of making a vertical slit and forcing the cannula through it. Several difficulties and accidents that sometimes occurred might be avoided in this way. The risk of making a false passage in inserting the cannula was entirely removed. Bulging forward of the fibrous tissue completing the tracheal tube posteriorly when the rings were flattened from in front in forcing in the cannula after the ordinary operation, and which had caused occlusion of the passage and death, was entirely prevented. The irritation and soreness in the edges of the distended parts, which usually continued for several days after the ordinary method had been followed, were thus obviated. When we considered that when a cannula was left in place for a few weeks the parts which the cannula pressed upon were absorbed and the opening became perfectly round, it would seem quite without objection to make such an opening at once. The method was particularly applicable for this reason in conditions, such as cancer and syphilis, where the cannula must be worn for a considerable time. It could be withdrawn and returned without difficulty from the first, and without the use of dilators. Granulations, malignant or other, would not spring up in the tissues about the cannula, as so often happened when a vertical incision was made.

**Subluxation of the Head of the Radius, with a Resume of One Hundred Consecutive Cases.**—Dr. W. W. Van Arsdale read a paper with this title, beginning with a clinical description of the injury and a comparison of the various theories held by different writers to account for the occurrence and peculiar symptoms of this lesion.

His conclusions were as follows: 1. The injury frequently occurring in children and called subluxation of the head, or displacement by elongation of the radius, is a well-defined surgical injury with well-marked constant symptoms and due to the same anatomical lesion in each case. 2. In frequency it makes one per cent. and over of the surgical injuries occurring in children, and it occurs almost entirely in children under nine years of age. 3. Its most frequent exciting cause is a sudden traction on the arm, but it sometimes results from a fall. 4. Its symptoms are absence of any appreciable deformity, loss of function in the arm, localized pain over the head of the radius on pressure, pronation of the hand, slight flexion of the elbow, and crepitation or snapping upon forced supination or restoration of function. 5. Treatment with a simple splint is advisable to prevent a recurrence of the condition. 6. The anatomical injury which causes the lesion has not yet been satisfactorily demonstrated.

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## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN LARYNGOLOGY AND RHINOLOGY.

*Meeting of February 26, 1889.*

Dr. C. C. Rice in the Chair.

**Epithelioma of the Soft Palate.**—Dr. W. L. Cary presented a patient suffering from this form of malignant disease. He had come to the speaker with the statement that he had a growth in the soft palate and suffered pain on swallowing, and that a year previously he had had an acute attack of some sort of inflammation in this situation, but without any rise of temperature. Examination had revealed a small white spot on the uvula the size of a split bean, just at the edge of the palatine arch. Its rate of increase had been slow. He had then removed the growth by the galvano-cautery, which had put an end to the process for six months, but it had then recurred. There was now a general swelling of surrounding parts, with a tendency showing in a small spot to break down. Swallowing was painful, but there was no cachexia. The growth had been proved by microscopical examination to be a squamous epithelioma.

Dr. A. G. Gerster examined the growth through a new oral speculum, presented by Dr. Cary, made to exactly fit the irregularities of the mouth and to open still wider on attempts to close the mouth. He was of the opinion that the growth had made such progress that an operation would be followed by a speedy return, although the fact that the glands were not involved tempted one to operate.

Dr. J. M. Kitchen presented several slender strips of sheet tin of various sizes and shapes, designed to form cores for intranasal plugs of shapes and sizes to suit any case, after being wound with cotton. With these plugs pressure could be made at any point in the nasal cavity, and, being bent to the form of the cavity, they would stay in place of themselves. Charged with antiseptics, such plugs could be kept in the nose for two or three days without discomfort, and could be made to serve many uses, including that of preventing adhesions between opposed surfaces, repressing exuberant granulations, making topical applications, preventing accumulation of secretions, and retaining flaps of mucous membrane in position after operations, until adherent. In many respects they could be used in place of the hollow rubber plugs used by Dr. Goodwillie.

Dr. Goodwillie remarked that in one exigency the rubber plugs were indispensable, and that was when it was desired to prevent adhesions between opposed surfaces or make pressure on these surfaces and at the same time have a current of air passing through. He had made such tubes of celluloid as well as of rubber.

**Removal of a Tuberculous Tumor of the Larynx by Laryngo-pharyngotomy.**—Dr. Gerster presented a patient upon whom this operation had been performed, and made some remarks on the technique and value of the operation. In connection with these remarks he presented another patient upon whom he had operated in a somewhat similar manner for the removal of a portion of a match stem imbedded transversely in the larynx, which had caused persistent dysphasia. Some months after the operation several cartilaginous sequestra had been coughed up, and the pain on swallowing had then entirely disappeared. He wished to call attention to the value of an operation for the removal of any circumscribed new growth from the larynx, and to a new means of diminishing the risk and the possibility of complications. Only six cases of solitary tumors of the larynx had been reported, but they were probably of more frequent occurrence than this would lead one to suppose. Tuberculous growths in the larynx which were strictly local—that is, which occurred without there being deposits elsewhere in the body—were, to say the least, very rare, and probably resulted, if at all, from inoculation. Most of such growths, then, were secondary. At one time, an operation for their removal had been thought to be precluded on this account, as in the case of anal fistulæ and tubercular inflammations in the genitals. Now we knew that if the progress of the inflammation in such a local deposit was slow and had not become too extensive, it was much better to remove it, and that the tubercular process in the lung was actually checked for a time by so doing. In connection with this statement, the speaker presented a man in apparently fair health, from whose knee he had some time previously excised a large amount of bone affected with tubercular caries, with the result that the fever, night sweats, cough, and emaciation from which he had till then been suffering had been for a time entirely suspended, and the man was now working at his trade again.

In the case of the patient from whom he had removed the solitary tubercular tumor (which was shown), the dysphasia, dyspnœa, and pain from which he had suffered had all been relieved, and so the pulmonary trouble markedly helped. Life had been prolonged for a time, and much suffering had been prevented. Tracheotomy could not have accomplished the same result. The cannula which he placed in the trachea when operating on the larynx had an attachment by which the portion of the tube which passed within the trachea could be increased in size at a certain point after its insertion. At the point in question the tube was composed of a framework of flat springs covered with rubber. The entrance of blood or secretions from the wound into the trachea was thus entirely prevented.

It was true that these secondary deposits of tuberculous matter were often found in patients who presented not the slightest signs of a lesion in the lungs. In such cases if some strain was brought to bear on the vital forces, it would often happen that dullness would soon become perceptible at one or both apices of the lung. Thus within a few weeks after removal of a testicle affected with tubercular disease from a stout patient whose lungs were apparently normal, he had seen pulmonary signs developed, the confinement and the shock of the operation having reduced the strength so that the "hoof" showed. The bronchial glands were in many cases the first tissues in the body to become the seat of tubercular deposits, and when the process had gone on until they had become cheesy, they became active sowers of the seed in either near or distant parts.

His main object in coming before the meeting was to place before the profession the value of operations for the removal of secondary deposits of tubercle. Such operations were not performed often enough. The only question which ought to be kept before the mind when a physician took charge of a case was as to how ultimate cure was to be effected. Thus, in the case presented, no other procedure, such as intubation of the larynx, could possibly have effected a cure.

Dr. Dillon Brown, in reviewing some of the uses and advantages of intubation of the larynx, referred to the case of the patient upon whom Dr. Gerster had operated in December, 1886, for the removal of a (supposed) tubercular growth of the larynx, and who had afterward come under his own care. Although the operation had been apparently successful, it had appeared as time went on that the patient could not remove the tracheotomy tube without being choked at once, and he had continued wearing the cannula until March, 1887, another operation having been done in the mean time for the removal of a deeply imbedded piece of match without relieving the tendency to choking as soon as the cannula was taken out. The larynx had then been intubated, and, although much pain and irritation had resulted (a thing which had never happened before in his experience), he had removed the tube after a week and the dyspnœa and dysphasia had not again appeared.

There was a brilliant field for the employment of intubation in gummata and œdema of the larynx. In syphilitic cicatrization relief could be obtained for a considerable time. He thought if the tube should be worn long enough, a permanent cure would result, and in every case there was a chance afforded to try the effects of constitutional treatment.

Dr. Gerster explained that the irritation caused by the intubation in the case which both he and Dr. Brown had had in charge had been due to the sequestra which had still been present, and that the recovery of the patient had really been coincident with his having finally expectorated them. No other operation than that which he had performed and no other procedure could have effected cure. Tracheotomy was an operation which he did only for tumors and foreign bodies; he had for some time past refused to perform it for other conditions producing dyspnœa, such as diphtheria.

## NEW YORK SURGICAL SOCIETY.

*Meeting of February 27, 1889.*

The President, Dr. Lewis A. Stimson, in the Chair.

**Extirpation of the Thyreoid Gland.**—Dr. Charles McBurney presented two patients upon whom he had operated for tumors of the thyreoid which interfered with respiration, and read a detailed account of the method used. (It will be published hereafter.)

Dr. J. A. Wyeth had in certain cases found the removal of the entire thyreoid a difficult operation. He had operated in eight cases with one death. In the latter instance the hæmorrhage had been the severest that he had ever had to deal with, and he had been compelled to abandon the operation. In the various cases in which he had operated the amount of hæmorrhage had differed considerably, and had seemed to depend upon the character of the tumor.

Dr. A. G. Gerster thought that the seeming contradiction in the experience of various surgeons as to the difficulty of controlling the hæmorrhage was due to differences in the method of treating the capsule of the goître. His experience had taught him that if all the layers of the capsule were split through to the parenchyma of the enlarged gland, easy and almost dry enucleation of the goître was the rule. If the capsule was only partly divided, the hæmorrhage would be large in proportion to the proximity of the line of division to the parenchyma. In certain forms of large goître of long standing, generally associated with calcification, the capsule contained a large number of much-distended and very brittle veins that, being already stretched to a great extent, offered every chance for laceration, and none almost for the formation of suitable masses for the application of ligatures. In these cases, as had happened once in the experience of Dr. Wyeth, extirpation had to be given up after a great deal of trouble and loss of blood.

If, on the other hand, the capsule was split through completely, a procedure often involving the necessity of applying a double row of ligatures along both sides of the cut for its entire length, enucleation would be found much easier—often astonishingly easy. It must be added that there was a considerable number of cases of goître in which a firm and not too vascular, rather loose capsule enabled the surgeon to remove the hyperplastic part of the gland, together with its vascular envelope. If the resistant bands of tissue were systematically divided between two mass ligatures, a nearly bloodless excision was often possible. But splitting of the capsule remained, after all, the best procedure.

Dr. Fred. Kammerer had witnessed many of the operations for the removal of the thyreoid in southern Germany and Switzerland. It was sometimes not easy to see, when cutting down on a thyreoid tumor, where the capsule ended and the parenchyma began. He did not entirely agree with Dr. Gerster as to the necessity of always getting through the capsule and enucleating a parenchymatous tumor, as hæmorrhage could generally, according to his experience, be avoided if the extracapsular operation was done systematically, as by Kocher's method. The ligation of the vessels on the tumor seemed to him to be the most troublesome procedure in the older methods of extirpation. This he would admit might be difficult. He referred, of course, to parenchymatous and not to malignant goîtres, where during the operation it was often impossible to limit the portion to be excised to the contents of the capsule.

Dr. McBurney remarked that in the case of the two tumors the removal of which he had just given an account of the capsule had been easily demonstrable, and the incision through the skin and fasciæ had exposed it at once. He entirely agreed with Dr. Gerster in thinking it a good general rule to get down to the part that was to be removed as the first and all-important step.

**Rupture of the Quadriceps Extensor Tendon.**—Dr. W. T. Bull presented a patient who had been successfully treated for the repair of this accident. He had been under the care of Dr. F. H. Markoe at Bellevue Hospital, where he had been admitted ten months prior to his appearance before the society. The sharp edge of a heavy body had fallen against his leg just above the patella. The power of extension had been completely lost, and a depression had appeared immediately above the patella, in front, but the lateral expansions of the recti had seemed to be intact. A posterior splint had been applied and kept in position for three weeks, when a plaster splint had been substituted and the patient allowed to go about on crutches. Passive motion had then been begun, and when the patient left the hospital the functions had been almost completely restored and were now perfect. The only trace of the injury was a thickening of the tissues just above the patella. The speaker then read a paper relating to the treatment of this injury. (See p. 421.)

The President had treated one case with the subcutaneous silk suture such as he used for fractures of the patella, and had obtained complete restoration of the functions of the joint. He believed that in this method the liability to the formation of adhesions which might seriously interfere with motion was less than after open suturing with exposure of the joint.

Dr. Gerster gave the history of three cases of rupture of the *rectus* part of the quadriceps muscle, just above the insertion of the tendon. Two complete ruptures had been observed in old people. The other one of the three was a case of partial separation in a middle-aged person. None of these patients had been subjected to an operation, and in all of them perfect functional results had been obtained after a simple treatment by rest in the extended position on a dorsal splint, supplemented by massage of the thigh, especially of the flabby quadriceps, beginning with the third week following the injury. The main difficulty was to be looked for in most cases in the excessive atrophy due to long inaction. Active and passive movements should be very gradually employed, and ought never to be forced or excessive.

Dr. Wyeth said that he could not agree with the reader of the paper in his argument that the restricting dressing should be removed after four weeks, especially when this treatment was applied to fractures of the patella. Nor could he agree with Dr. Gerster in advocating massage of the quadriceps muscle early in the management of such cases. He held that temporary atrophy of these muscles was a benefit rather than an injury, for a weakened muscle would not be causing so much constant traction on the ligament or band which was in process of organization between the two fragments. Moreover, the muscle would resume its tonicity in good time, when the patient had begun to move about. The treatment which he had adopted, and for which he was chiefly indebted to the instruction and experience of a great authority upon his subject, the late Professor Frank Hastings Hamilton, had for its object the prevention of strain upon this new ligament, until it became as thoroughly organized and strengthened as was possible.

Bearing in mind that a ligamentous band of union an inch or less in length, properly protected until it was organized, secured the greatest measure of usefulness to the member, he prevented free motion in the leg in the following manner: Hamilton's posterior splint and the figure-of-8 elastic flannel bandage were applied, and the limb was immobilized for six weeks, the approximating roller being tightened from time to time. At the seventh week the fragments were to be held firmly together, and the leg flexed to about twenty degrees. The splint, somewhat shortened, was then reapplied, and the patient, thus protected from accident, was allowed to go out on crutches. Passive motion was repeated every two weeks, always holding the fragments together to prevent strain and stretching of the forming ligamentous band. This was continued for six months, the patient moving about on crutches for three months, and after this with a cane. A knee check was then adjusted to prevent injury in case of slipping, or any overflexion of the knee. This was worn for twelve months after the accident, and if this period ended in winter when the pavements were slippery, the protector was worn until the streets were safe. He removed the check at night, and made flexion at regular intervals to prevent adhesion of the patella to the femur, and to insure free motion at the joint, but always holding the fragments in juxtaposition at the same time, as nearly as possible.

He would not advise massage until after six weeks had elapsed from the date of the accident. He believed that the great number of failures to get recovery of function after fracture of the patella resulted from the practice of too early motion at the joint and too early removal of all protection at the knee.

Dr. Gerster replied that if the rupture did not involve much of the lateral extent of the fascia lata there would not be much disability in the limb afterward. He had seen patients with a wide separation of the tendon walk upstairs with alternating steps. The wasting of the muscles from disuse was the chief thing to be prevented. The mass of the new-formed ligament varied much in individuals; where it was large and solid, the best results in the way of treatment could be got. Where it was weak, no amount of prolonged fixation would prevent ultimate rupture of the ligamentous band.

Dr. F. Lange remarked that the extent and seat of the injury were important factors in determining the question whether any operation was necessary. He remembered a case in which the patient was able to raise the limb in extension, though with some difficulty, immediately after the injury. The rupture in this case had been just above the patella, and the gap narrow; probably, therefore, the lateral portions of the capsular ligament had been preserved. This patient had regained very good use of his limb. Massage had been used after the first two weeks had elapsed, and, though the limb had been kept in an elevated extended position, it had not been strictly immobilized, so that the patient had been able to make slight motions.

He had in several cases of old ununited fracture of the patella, where the upper fragment could not be brought down, cut across the rectus. However, this section had been made within the limits of the union with the vasti muscles, so that through the latter an indirect continuity had been preserved. Very good restoration of function had been obtained in these cases. It seemed to him that in the case presented by Dr. Bull the rupture had taken place within the limits of the vasti; at least, a depression could still be felt and seen at a point corresponding to that region.

Dr. McBurney said that he was guided in his treatment by the amount of the separation between the ends of the tendon. He considered that the principles of treatment were identical with those which governed the treatment of fractures of the patella. The operative treatment was usually necessary where the capsule was torn across entirely and the separation was considerable.

Dr. Bull was glad to note that the experiences of others had led them to no more positive conclusions than he had arrived at as to the best method of treatment. The results had been shown to be bad in half the collected cases. It was certainly not necessary to operate in cases such as had been mentioned by Dr. Lange, where the power of extension of the limb was preserved after the accident. In such it was probable that the lateral aponeurosis of the muscle was intact, or the rupture only a partial one; here the ends would be found not to be widely separated. He could not concur in the view that in following out the treatment by splints, without suture, it was necessary to keep the knee joint quiet for six months. Four weeks on a posterior splint, in bed, was time enough in which to secure a good union of the ruptured tendon. After that time he would allow a patient to walk, wearing a short posterior splint for perhaps two weeks more, and then leave the motion of the joint entirely to the discretion of the patient. He agreed with Dr. Gerster that if the tendinous union formed during the course of such management proved to be weak, and the power of extension deficient, massage should be employed, and finally the secondary suture.

# Reports on the Progress of Medicine.

## CUTANEOUS AND VENEREAL DISEASES.

By GEORGE THOMAS JACKSON, M.D.

**Hydroxylamine** is a recent addition to our list of drugs useful in dermatological practice. Eichhoff, a good and competent observer, says ("Monatsheft f. prkt. Derm.," 1889, No. 1) that he has found it very efficacious in lupus vulgaris, trichophytosis capitis, and trichophytosis barbæ. He warns us of its poisonous properties, and advises its use in a solution not stronger than one tenth of one per cent., as it is often very irritating. His favorite formula is: Hydroxylamine hydrochloride, a grain and a half; alcohol and glycerin, each an ounce and a half.

"**Eczema partially cured by Vaccination**" is the title of a short therapeutical note by Thomas, of Wellingborough ("Brit. Med. Jour.," Jan. 19, 1889, p. 128). The case was one of general and very persistent eczema in a child, and the vaccination was followed by marked improvement, no other treatment being used.

**The Treatment of Eczema Impetiginosum by Picric Acid.**—Cerasi ("Wien. med. Presse.," 1888, No. 47) reports rapid cure of these cases occurring on the face and scalp by covering the parts, after removing the crusts, with compresses soaked with a solution of picric acid (1 in 300 to 1 in 150).

**The Treatment of Nævi by Electrolysis.**—This method is recommended by Marshall, of Nottingham, Eng. ("Lancet," Jan. 12, 1889, fo. 73). He uses a needle attached to the positive pole, and says that the negative pole leaves a brown and disfiguring scar, causes more sloughing, and is more apt to be followed by hæmorrhage. [In quite an extensive experience we have not met with the production of a brown scar from the use of the negative pole.]

**The Treatment of Rosacea.**—Unna, in answer to a correspondent, says ("Monatsheft f. prkt. Dermat.," 1888, No. 22, p. 1162) that most cases of rosacea are associated with seborrhœal eczema, and yield to the treatment appropriate to the latter. There are some cases of *pure* rosacea that are due to a congenital abnormity of the cutaneous vessels, as shown not only by the redness of the nose, but also by the bluish-red color of the hands, disposition to frost-bite, and the like. This is excited by freezing of the nose, exposure to the sun, hyperæmic affections of neighboring parts, as of the nose in rhinitis, sharp changes of temperature, working before an open fire, alcoholism, sluggish circulation in the portal system, and the like. In the treatment of this pure rosacea, besides relieving any of the exciting causes, he recommends the internal administration of ichthyol for a long time in doses of fifteen to thirty grains a day, and the application to the nose during the night of a watery solution of ichthyol, or of a sulphur paste with ten per cent. of sulphur. When the diffuse redness is overcome the large vessels are to be treated by multiple punctures, followed by laying on of a damp cloth. For slight cases, and as an after-treatment if there is no great irritability of the skin, washing with ichthyol soap and warm water will render good service.

**Lupus Miliaris**, or acne lupus, is a rare disease of the skin, and very apt to be mistaken for a simple acne. It occurs upon the cheeks in the form of discrete, pinhead-sized, deep red, slightly raised papules, which do not tend to suppurate. Von During ("Monatsheft f. prkt. Dermat.," 1888, No. 22, p. 1131) has met with such a case and cured it by the following treatment: He applied a plaster muslin containing forty grains each of salicylic acid and creasote to a square yard of plaster mass. After three or four applications of this all the papules fell out, and the skin healed rapidly under a plaster muslin of zinc oxide and ichthyol worn during the night, and a resorcin-zinc paste during the day. Some papules that appeared later were destroyed by the salicyl-creasote plaster, and the galvano-cautery.

**The Treatment of Lupus.**—Dr. Schütz, of Frankfort ("Münch. med. Woch.," Nov. 6, 1888) believes that the reason why the resulting scar from the treatment of lupus is so deforming is that the disease is seated in so many different layers of the skin, and that when the various foci are destroyed the different layers of the skin will heal at different rates. The deforming cicatrix is to be prevented by the regulation of the effort of repair on the part of nature. Various plans have been adopted for this, such as that of Lassar, given in the "Berl. klin. Woch.," 1887, No. 37; the use of antiseptic dressings, like that of corrosive sublimate proposed by Doutrelpont; or of mercurial ointment, as advocated by Gerhardt; or of the double-headed glue bandage of Unna. Schütz's method in the treatment of lupus is first to destroy the growth by the curette or cautery, and then to apply pyrogallic acid or chloride of zinc. So soon as granulation begins and the eschar is cast off under a sublimate bandage, he covers the wound with a "Carbolquecksilberguttaperchapflastermull," which is to be interpreted a gutta percha plaster muslin containing carbolic acid and mercury, and over this applies a number of coats of collodion. This is left on for from six to twenty-four hours, then removed, and reapplied after the edges of the wound are cleaned. Under this treatment granulation proceeds slowly but evenly, the edges of the wound lose their prominence, and finally there results a delicate, soft, and movable cicatrix. After the wound is closed it is to be dressed with some simple protecting ointment, and the cicatrix is to be treated daily with massage and rubbing with marble powder and soft soap. The diet and hygiene of patients with lupus must be carefully regulated.

**Treatment of Leprosy.**—Dr. Dreckmann, of Vienenberg, reports ("Monatsheft f. prakt. Derm.," 1888, No. 23) a case of advanced leprosy cured by Unna's method—that is, by the use of ten-per-cent. pyrogallol ointment on the forearms and hands, and ten-per-cent. chrysarobin ointment upon the rest of the body, excepting the face, where a salicylic acid and creasote plaster muslin was used. Ichthyol was given by the mouth in increasing doses from six grains up to forty-five grains a day. [We have just received a reprint of an article by Dr. Blanc, the distinguished dermatologist of New Orleans, who has tried substantially the same method of treatment in his hospital cases of leprosy. He reports that pyrogallol, resorcin, and salicylic acid were not at all satisfactory on the face, but useful on the body. Ichthyol up to six grains a day, internally, gave only negative results.—Ed.]

**The Ways and Wanderings of the Contagium of Syphilis.**—Lang believes ("Internat. klin. Rundschau," 1888, No. 51) that at the time of the infection with syphilis a cell infiltration takes place which forms a wall of isolation between the diseased center and the sound parts in the neighborhood. A part of the syphilitic poison is thus rendered harmless, while the rest gains access into the system either by means of the lymph cells into the lymphatics, or directly into the blood-vessels. If by the former way, the syphilitic infection will take place gradually; if by the latter, at once. Another way of infection is by what he calls regionary infection, by which is meant that the poison is carried into the regions in the neighborhood of the original focus through the interstices of the tissues, and there gives occasion to the formation of papules. The frequent infection of the rectum in women is, in most cases, due to the regionary infection from the primarily affected genitals. Another manner of the spreading of syphilis is the "post-initial infection," in which, on a region distant from the initial lesion, another initial manifestation appears, as on the lip from a genital chancre. An initial lesion with intact epithelium can only spread by way of the lymph channels and tissue spaces, while an ulcerated initial lesion permits all possible ways of infection. A part of the syphilitic contagium will be destroyed in the blood, a part got rid of by the excretory organs, and the rest can give rise to irritative processes, while some may remain for years quiescent, then to give rise to gummatous formations. During these years the poison must have undergone important modifications, as it is not infectious in the gummatous stage. The poison sometimes remains fixed in a certain organ without impairing the functions of the organ.

# Miscellany.

**The Continental Anglo-American Medical Society.**—A considerable number of English and American physicians having accepted, in principle, the idea of an association of this kind, a meeting was held on March 14th, when the following gentlemen were present: Dr. Barnard, Dr. Boggs, Dr. Bull, Dr. Chapman, Dr. Darcus, Dr. E. Dupuy, Dr. Faure-Miller, the Hon. A. Herbert, Dr. Jennings, Dr. Linn, Dr. Loughnan, Dr. Murray, Dr. Nachtel, Dr. Warren-Bey, and Dr. Webb. In addition to these Paris practitioners, about forty from other places on the Continent have written to express their approval of the project, and many more are expected to send in their adhesions. At this meeting it was resolved to form a society under the above-mentioned title, limited to British and American physicians residing abroad, the first general meeting to take place in Paris, on Monday, September 30, 1889. This meeting, intended to organize the working of the society, was arranged to be held on that date at 4 P.M., and to be followed in the evening by a public dinner. Notice will be given, in due time, of the place of meeting. An executive committee was appointed to study the scope of the society, to draw up articles of association and by-laws, and to submit suggestions, all to be voted upon at the meeting in September. It was further decided to invite a certain number of distinguished members of the profession to become honorary presidents of the society. The following names were proposed: Sir T. Spencer Wells, Sir Joseph Lister, and Dr. Richard Quain, for England; Dr. Fordyce Barker, Dr. H. Weir Mitchell, and Dr. John S. Billings, for America; and Professor Ball and Brown-Séquard for Paris. With regard to the question of expense, the annual subscription for each member will probably not exceed five francs. The annual dinner, attendance at which will be optional, will entail a further expense of twenty francs for each member attending, such member to have the privilege of inviting any professional or lay friends at his own expense. The executive committee, however, contemplate inviting each year to the dinner about three of the leading members of the Paris faculty as guests of the society. The following-named gentlemen compose the executive committee: Dr. the Hon. Alan Herbert, 18, rue Duphot; Dr. Faure-Miller, 28, rue Matignon; Dr. Chapman, 224, rue de Rivoli; Dr. E. Dupuy, 53, avenue Montaigne; Dr. Barnard, 34, rue Washington; and Dr. Thomas Linn, 16, rue de la Paix. The last named to act as secretary. Gentlemen who desire to join the society are asked to communicate with the secretary or one of the executive committee.

**The New York Academy of Medicine.**—At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, the 23d inst., storage batteries will be shown, and Dr. D. H. Goodwillie will read a paper on "Deafness as a Result of Nasal and Dental Diseases."

At the next meeting of the Section in Obstetrics and Gynæcology, on Thursday evening, the 25th inst., Dr. H. J. Boldt will read a paper on "The Manual Treatment of Diseases of the Pelvic Organs according to Brandt's Method," with a demonstration on a patient; and Dr. H. C. Coe will read a paper on "The After-history of Cases of Incomplete Ovariotomy."

## THERAPEUTICAL NOTES.

**Cannabin in Exophthalmic Goitre.**—A recent number of the "Practitioner," quoting from the "Wiener medicinische Presse," No. 41, 1888, publishes the following formulæ recommended by Valieri, who has used cannabin in three cases of exophthalmic goître:

1. Four grains and a half of cannabin mixed with a sufficient quantity of sugar of milk to make five pills; to be taken in twenty-four hours.

2. Four grains and a half of cannabin, three ounces of distilled water, and one ounce of syrup of orange-flowers, mixed together; to be taken in teaspoonful doses in twenty-four hours.

**Dysmenorrhœa.**—Several formulæ for alleviating dysmenorrhœic pains are given in a recent number of the "Revue générale de clinique et de thérapeutique":

1. Equal parts of tincture of piscidia erythrina and tincture of viburnum prunifolium, twenty drops to be given four or five times a day.

*Piscidia erythrina* possesses antineuralgic properties. *Viburnum prunifolium* is an antispasmodic analogous to valerian, and a moderator of the excito-motor power of the medulla oblongata.

2. When the dysmenorrhœic pains are accompanied by menorrhagia, it is advisable to add to the viburnum *Hydrastis canadensis*, which has vaso-constrictive properties somewhat like those of ergot of rye and quinine sulphate. Twenty drops of a mixture of equal parts of the two tinctures may be given four or five times a day.

3. Under the name of a uterine sedative the following potion has been prescribed:

| | | |
|---|---|---|
| Tincture of viburnum prunifolium | | 20 drops; |
| Élixir de Garus,<br>Syrup, | each | 231·48 grains; |
| Distilled water | | 462·96 " |

One soupspoonful to be given every half hour or every hour. [The *élixir de Garus* is made of compound tincture of saffron and syrup of *Capillus Veneris*, colored with caramel dissolved in orange-flower water.]

**Creolin.**—The "Deutsche Medizinal-Zeitung" for December 13, 1888, contains formulæ for the use of creolin in the treatment of diseases of the throat, nose, and ears:

1. *Otorrhœa* (Eitelberg):

Ten drops of creolin in a pint of lukewarm water, for an injection into the ears.

2. *Eczema of the External Ear and of the Openings of the Nostrils* (Eitelberg):

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|---|---|
| Creolin | 1 part; |
| Vaseline | to 50 parts. |

For an ointment.

3. *Diphtheritic Angina* (Schnitzler):

*a.* A solution of creolin 1 part, to from 100 to 500 parts of water, for a gargle.

*b.* A solution of from 1 to 2 parts of creolin in 100 parts of water, for swabbing.

4. *Diseases of the Larynx, especially Tuberculosis* (Schnitzler):

*a.* A solution of 1 part of creolin in 1,000 parts of water, for inhalation.

*b.* A solution of from 1 to 5 parts of creolin in 100 parts of water, for swabbing.

*c.* A mixture of from 1 to 5 parts of creolin and 100 parts of sugar of milk, for insufflation.

5. *Ozæna* (Lichtwitz):

| | |
|---|---|
| Creolin | 3 to 5 drops; |
| Distilled water | 1 pint. |

For douching the nose.

**Revulsion by Iodogenous Paper.**—One of the February numbers of the "Revue générale de clinique et de thérapeutique" calls attention to the results of investigations made by M. Aubert, of Lyons, and M. Eymonnet, his pupil. They recommend revulsion with nascent iodine by means of *papier iodogène*. It consists of three superposed sheets of paper separated from each other by gutta percha. The middle sheet is thin and unsized; those on the outside consist of blotting paper impregnated, one with a solution of iodide of potassium, the other with a solution of iodate of potassium and tartaric acid. The sheets are superposed after complete and absolute desiccation, and are kept away from all moisture. On wetting them, the tartaric acid reacts upon the alkaline iodide, hydriodic acid is evolved, which decomposes the iodic acid, and sets iodine free. The paper turns brown, and, owing to the intermediate piece of paper, the disengagement of iodine continues long enough to exercise a revulsive action upon the skin. When the disengagement of the iodine is finished, the paper turns yellow, then white. It then contains only acid potassium tartrate. The application of the paper is very simple. It should be moistened, placed in contact with the skin, and covered with a piece of gutta percha. The cutaneous revulsion is complete, and, as after the use of the tincture of iodine, terminates in a dry desquamation.

**Podophyllum Ernodi.**—A recent number of the "Lancet," quoting from "Pharmaceutical Journal," No. 970, 1889, says that it is probable that we shall soon look to *Podophyllum Ernodi* as a source of podophyllin instead of to *Podophyllum peltatum*. *Podophyllum Ernodi* is found in the Himalaya mountains, and is reported to be very abundant in Kunawin and Cashmere. The rhizome resembles that of the May-apple, but yields from 10 to 12 per cent. of resinous substance, while the American species yields from 3·50 to 5 per cent. The physiological action of the two appears to be identical. In the course of a few hours, half a grain of the resin mixed with a little sugar produces cathartic effects with some griping sensations.

**A New Source of Digitalis.**—The Austrian Pharmacopœia, says the "Lancet," orders *Digitalis purpurea*. Dr. Pasch-Ris has lately examined a wild form, *Digitalis ambigua*, found in some parts of Austria and Hungary. His experiments show that there is apparently no practical difference, chemical or physiological, between the two. Should these observations be confirmed, the present somewhat limited supply of digitalis will receive a valuable addition.

**The Alkaloid of Ulex Europæa.**—The "Monthly Journal of Pharmacy," quoted by the "Lancet," states that gorse (*Ulex europæa*) has been found to contain an extremely powerful alkaloid, ulexine. It apparently arrests all voluntary movements and reflexes by paralyzing the motor tract of the spinal cord, the trunks of the motor nerves, and the heart, though in the last case there is primarily a rise in arterial pressure Its diuretic action is as strong as that of caffeine.

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**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

THE NEW YORK MEDICAL JOURNAL, April 27, 1889.

## Original Communications.

### ELECTRIC CATAPHORESIS AS A THERAPEUTIC MEASURE.*

By FREDERICK PETERSON, M. D.,

CHIEF OF CLINIC, NERVOUS DEPARTMENT OF THE VANDERBILT CLINIC OF THE COLLEGE OF PHYSICIANS AND SURGEONS.

If two compartments separated by a membrane are filled with a fluid and in each an electrode is placed, there is a streaming of the fluid through the septum in the direction of the galvanic current—that is, from the positive to the negative pole; so that in the course of time there is an increase of fluid in the negative compartment. This osmosis, as is well known, occurs naturally without the use of electricity between two dissimilar liquids, the direction of the osmotic current being from the lighter to the denser liquid. But if the anode is placed in the denser liquid and the cathode in the lighter, this natural osmotic current is not only overcome but reversed. Du Bois-Reymond termed this the cataphoric action of the constant current. This streaming movement is analogous to that taking place in the semisolid sarcous substance of muscle when subjected to the constant current and observed under the microscope—a visible flowing of the contents of the muscular fiber from the positive to the negative pole causing a swelling of the fiber at the negative end. This is called Porret's phenomenon in living muscle.

Now, it has been found that the skin of animals is permeable to drugs. The degree of absorption varies in different animals and depends upon the quality of drug employed and the manner of its application to the skin. Thus the skin of the frog absorbs water or watery solutions rapidly (Guttman), while that of man does not do so at all because of the fat normally present upon the epidermis and in the pores. Solutions containing alcohol, ether, or chloroform, by removing the fat, render absorption easy (Parisot). All substances which are volatile and corrode the epidermis, like carbolic acid, are readily absorbed (Röhrig). Watery solutions striking the human skin in a finely disseminated spray may reach the interior of the body, probably by penetrating the interstices of the epidermis (Juhl).

Massage in connection with cutaneous medicaments causes easy absorption by forcing the particles into the pores. Wherever the epidermis is removed, as by an abrasion, burn, or blister, the transference of substances through the skin is rapid.

The cataphoric action of electricity has often been made use of experimentally to introduce drugs into the system through the skin. The anode moistened with a solution of strychnine has been applied to the skin of a rabbit, the cathode being placed upon any indifferent spot, and in a few minutes the animal has died from strychnine poisoning (H. Munk). In man quinine and potassium iodide have been thus introduced and subsequently detected in the urine (Landois and Sterling, "Physiology," p. 489).

Efforts have been made more particularly, however, for the purpose of producing a local anæsthesia by the use of electro-chemical osmosis. As far as I can learn, the first investigator in this direction was Dr. B. W. Richardson, who wrote two articles on "Voltaic Narcotism" in 1859.* He began experimenting in October, 1858, by producing a local anæsthesia with a solution of morphine on the anode. Then with a simple galvanic current and with tincture of aconite on the positive pole he brought about complete anæsthesia of a rabbit's ear, after trying in vain to do so with the current alone. After this he made the following solution:

| | | |
|---|---|---|
| ℞ Tinct. aconiti | ʒ iij; | |
| Ext. aconiti alc. | ℈ j; | |
| Chloroformi | ʒ iij. | M. |

One third of this was put on a sponge which was wrapped around the upper part of the hind leg of a dog, after shaving it, and attached to the positive pole, the other pole being applied to the ankle. In eleven minutes there was complete anæsthesia to transfixion with pins anywhere between the electrodes. A minute later a subcutaneous section of the tendo Achillis was made without pain. At the end of an hour the limb was amputated about an inch below the knee without a wince until the bone was sawed, when the animal screamed once, but it was not known whether this was from pain or terror. There was no pain in the subsequent manipulations. Twenty minutes later the animal ate heartily and walked about unconcernedly upon three legs. The wound healed by first intention.

Subsequently transferring his experiments to mankind, he painlessly removed a one-inch nævus from the shoulder of a ten-weeks babe, after half an hour's voltaic narcotism with five minims each of chloroform and tincture of aconite. Then, in five cases of extraction of teeth, a fine anode wound with cotton soaked in the same solution of chloroform and aconite produced complete anæsthesia in ten minutes. Afterward, the new method was used successfully in a case of strangulated hernia in a man; in one of tumor of the shoulder, of the size of an orange, in a woman aged forty-seven; and in one of staphyloma of the cornea. Equal parts of chloroform and tincture of aconite were used in all, and the duration of the narcotic process varied from half an hour to an hour.

It is needless to say that Richardson's articles roused a storm of opposition in the medical press of England and the continent. The ground taken by his opponents may be illustrated by the conclusions of A. Waller,† which are as follows: Insensibility from so-called voltaic narcotism is produced solely by the local absorption of the chloroform and aconite mixture. Anæsthesia is produced with equal efficacy by the mere topical application of the narcotic mixture without the electric current. The procedure is in itself painful, and the result is inflammation and disorganization of the skin.

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* Read before the Section in Theory and Practice of the New York Academy of Medicine, February 19, 1889, and before the Alumni Association of the Buffalo Medical College, March 26, 1889

* "Med. Times and Gazette," February 12 and June 25, 1859.

† *Ibid.*, March 19 and July 30, 1859. See, also, views of J. Althaus, "Wien. med. Woch.," ix, 1859, p. 433.

It is to be regretted that Richardson himself subsequently abandoned the position he had taken with regard to voltaic narcotism.[*]

The subject slumbered for more than twenty-five years, and has only of late years been revived, or rather rediscovered, for Richardson's articles had in the mean time been so completely forgotten that no reference has been made to them anywhere until this moment.

Wagner[†] reintroduced the matter to the profession in 1886 by a short note on the possibility of cocaine anæsthesia with the galvanic current, but without definite experiment.

But Adamkiewicz has written more fully upon this subject of late than any one else. His first article in 1886 described what is known as his diffusion electrode[‡] (see Fig. 1), with which he professed to introduce chloroform into tissues and produce local anæsthesia. He found chloroform would evaporate too rapidly from the ordinary sponge electrode, and hence devised this new instrument. It holds three c. cm. of fluid in a hollow brass cylinder, the bottom of which is of porous carbon. Over the carbon bottom a piece of moistened linen is stretched to prevent burning when in contact with the skin. This instrument is made the anode, of course, and applied to painful spots in neuralgia with a three to five or seven milliampère current. He professed to obtain a gradual anæsthesia with disappearance of pain, and had employed the method with chloroform in rheumatic pains and neuralgias of the intercostal and trigeminal nerves.

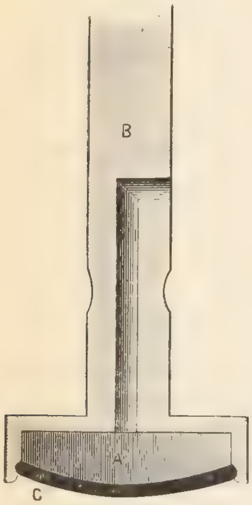

Fig. 1.—Adamkiewicz's diffusion electrode. A, cavity to hold chloroform; B, metal part of electrode; C, carbon bottom of cavity.

This revival of Richardson's discovery was again met by strong opposition and criticism. Paschkis and Wagner[#] maintained that chloroform was almost a complete insulator and did not conduct at all; that, though anæsthesia was produced, it was solely due to contact of the chloroform with the skin, and that the gradual disappearance of the chloroform from the electrode, noticed by Adamkiewicz and ascribed by him to cataphoresis, was nothing but an evaporative phenomenon.

Adamkiewicz replied that, though a poor conductor, chloroform did conduct, and that anæsthesia was produced in four minutes, first to temperature and then to pain; that with a strong current deep sloughing could be produced in a few minutes, which chloroform alone could not induce for hours; and he was able to show cataphoresis with the galvanic current in a rabbit's ear by staining chloroform with gentian violet.

Afterward he reported three cases of neuralgia, at the sixth *Congress für innere Medicin*,[*] relieved by his method with a one to seven milliampère constant current where other means had failed to do any good.

Lumbroso and Matteini[†] have employed chloroform with ordinary electrodes and ten to twelve milliampères in neuralgia, always with great success in relieving pain, whereas the current alone without chloroform produced no result.

Dr. J. L. Corning[‡] has reported some experiments of his with cocaine cataphoresis. He tried a five-per-cent. solution with the anode and produced a slight effect. He then perforated the skin by means of the Baunscheidt needles, and was able to produce anæsthesia with a two-and-a-half-per-cent. solution of cocaine on an ordinary sponge electrode. He reported, however, no cases.

My own experience with electric cataphoresis has extended over many months of time, and my experiments number much over a hundred, about a fourth of which I report in detail. Actuated by the great diversity of opinion among the investigators I have quoted, I began at the foundation, in order to demonstrate to my own satisfaction the actual facts in a scientific manner.

Experiment No. 1.—*Uselessness of the Adamkiewicz Electrode.*—Barrett fifty-cell chloride-of-silver battery. Placed three c. cm. of a four-per-cent. aqueous solution of Merck's cocaine in the Adamkiewicz electrode, diameter four ctm., and made it the anode. Applied this to skin over first interosseous muscle between thumb and index finger of left hand, an ordinary sponge-covered negative electrode five ctm. in diameter being placed in the palm of same hand. Both sponge and linen over the two electrodes were first well moistened. The current from eighteen cells was used for three minutes. No change of any kind in sensibility.

Experiment No. 2.—Same details as in No. 1, but current contact for five minutes. No change in sensibility.

Experiment No. 3.—*Current Painful.*—Same details as in No. 1, except that twenty cells were used for three minutes, causing severe prickling and burning sensation at once. Very feeble anæsthesia to touch and slight hyperalgesia on pricking, possibly due to the pressure on the terminal sensory filaments by the intense congestion produced by the anode. Sensibility normal three minutes later.

Experiment No. 4.—Same details as in No. 3, but current applied for ten minutes. Exactly the same sensory disturbance as in last experiment.

Experiment No. 5.—*Defects in Adamkiewicz's Electrode.*—The Adamkiewicz electrode was replaced by an ordinary sponge-covered metal electrode two ctm. in diameter soaked in the four-per-cent. solution of cocaine. Details same as in No. 3. Current applied for six minutes. Could then prick with a needle until bleeding occurred, in a spot one ctm. in diameter where cocaine had been applied, without its being felt, and there was also complete anæsthesia to touch and temperature. This anæsthesia lasted ten minutes. Investigating into the cause of this remarkable difference in results, I found that the electrode of Adamkiewicz was absurdly faulty in construction. The metal cylinder with its carbon bottom was a piece of inexcusable stupidity. As the electric current travels where there is least resistance, it is evident to the merest tyro that the whole current will traverse the metallic part of this electrode, and not a vestige pass through the fluid and carbon disc, when it is applied closely to the skin.* The resistance of chloroform amounts to billions of ohms. I consequently abandoned any further use of this instrument.

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[*] "Med. Times and Gazette," Feb. 3, 1866.

[†] "Wiener med. Presse," 1886, S. 212.

[‡] "Neurolog. Ctrlbl.," Bd. v, S. 219–497.

[#] *Ibid.*, Bd. v, S. 413.

[*] "Neurolog. Ctrlbl.," Bd. vi, S. 238.

[†] "Sulla cataforesi elettrica," "La Riforma medica," July and November, 1886.

[‡] "New York Med. Jour.," Nov. 6, 1886.

Experiment No. 6.—*No Anæsthesia with Cocaine alone.*—This experiment was undertaken for the purpose of ascertaining if the electric current really had any effect in hastening anæsthesia. A four-per-cent. solution of cocaine was applied to the skin of the dorsal surface of my left hand for twelve minutes by holding the open mouth of the bottle containing the solution against it. The skin surface in contact with the solution was one ctm. and a half in diameter. No anæsthesia of any kind was produced.

Experiment No. 7.—*None with Ten-per-cent. Solution.*—For same purpose as No. 6. Soaked a metal sponge-covered electrode, two ctm. square, in a ten-per-cent. solution of cocaine and applied to skin over first interosseous of my left hand for ten minutes without current. No anæsthesia whatever produced.

Experiment No. 8.—*No Anæsthesia with Current alone.*—Same electrode as in No. 7 to same place. A large sponge-covered wire-netting cathode, some eight by twelve ctm. square, in the palm of same hand. Sixteen cells of a Grenet battery for six minutes without cocaine. No anæsthesia whatever.

Experiment No. 9.—*Current and Cocaine together cause Marked Anæsthesia.*—Same electrodes and application as in No. 8, but with ten-per-cent. solution of cocaine on the anode. Contact for five minutes with sixteen cells of Grenet battery. Complete anæsthesia to touch, pain and temperature lasting over an hour in surface in contact with anode. It is known that the anode normally paralyzes the vaso-motor nerves, producing congestion and œdema, while cocaine has the opposite effect, contracting the capillaries; but when applied together, the normal electric effect outbalances that of cocaine, and the part under the anode remains congested. The current itself with this strength is somewhat painful at first at the anode, but as anæsthesia appears the pain gradually diminishes and ultimately disappears.

Experiment No. 10.—Exactly same details in every respect as in No. 9, but applied to the hand of Dr. J. A. Booth instead of my own. Same anæsthesia as on myself. Repeated this the next day on Dr. Booth for seven minutes, with same result. The anæsthesia in these short applications is always limited to the area of the anode.

Experiment No. 11.—*No Effect with Cathode.*—Exactly same electrodes and application as in No. 9. Same number of cells, but commutator reversed so that the ten-per-cent. solution of cocaine was on the cathode. Contact of current for five minutes. Result: Continual increase of pain at spot under cathode and no anæsthesia whatever, the very opposite effects produced by the anode.

I had now satisfied myself that a watery solution of cocaine alone, applied to the skin, or upon the cathode with a strong continuous current, and that the current alone without cocaine, could produce no cutaneous anæsthesia, but that there was an actual cataphoresis of the cocaine solution and consequent anæsthesia of considerable duration with the anode. I then proceeded to make therapeutic use of this method.

Experiment No. 12.—*Successful Use of Cocaine; Cataphoresis in a Case of Supra-orbital Neuralgia.*—Dr. E. C. Seguin kindly placed at my disposal an obstinate and severe case of right supra-orbital neuralgia. L. E., female, aged forty. Duration of neuralgia, a year and a half. Everything tried unavailingly. Suffering every few minutes with the usual agonizing pains of the disease. There was slight analgesia over right half of the forehead and right side of the nose, but exquisite hyperæsthesia of the tactile sense in the same areas, so that a slight touch or breath of air was exceedingly painful. There was great tenderness on pressure. The two-ctm. square anode with a ten-per-cent. solution of cocaine was placed in the right supra-orbital region over a painful spot, and the eight by twelve ctm. sponge and wire cathode in the right palm. Nine Grenet cells were used for three minutes, then raised to eleven cells for two minutes longer, which caused prickling but no pain; and then raised to thirteen cells, which was too painful, and was reduced to twelve cells and continued for five minutes. The whole application lasted ten minutes without break of current. There was no neuralgic pain during this time and the hyperæsthesia had disappeared. There was the expected anæsthesia. The patient was completely relieved from pain for from four to five hours.

Experiment No. 13.—A second similar application was made the next day in the same case by Dr. Seguin at his office with equally gratifying results.

Experiment No. 14.—Same case and same electrodes as in No. 12. Seven Grenet cells, five milliampères current strength, ten-per-cent. solution of cocaine, six minutes' application. Equal relief.

Experiment No. 15.—Same case and details. Eleven cells, ten-per-cent. solution of cocaine, six minutes. Equal relief.

Experiment No. 16.—Same case. Application by Dr. Seguin. Ten-per-cent. solution of cocaine, fifteen milliampères current strength, twenty minutes' contact moving slowly over different parts of right supra-orbital region. Very great relief for five hours.

Experiment No. 17.—Same case. Sixteen to twenty cells, ten-per-cent. solution of cocaine, five to seven milliampères current strength, nine minutes. Same relief. In this case aconitine pushed to its toxic effects did not relieve pain. The cataphoric application is still in use in this case, and always with the marked results mentioned. Latterly several applications of the anode with a twenty-per-cent. solution of cocaine have been still more distinctly beneficial. On one occasion she had eleven hours of perfect freedom from pain, the longest interval of relief in a year and a half. Whether any actual curative effect will be produced it is now too early to determine. The patient herself is so convinced of the efficacy of this method that she will now try nothing else.

Experiment No. 18.—*Successful Use of Cocaine Cataphoresis in another Case of Chronic Supra-orbital Neuralgia.*—This second case was also placed at my disposition by Dr. Seguin. J. F., male, aged sixty, extreme suffering from right supra-orbital neuralgia for twelve years. Internal administration of aconitine is gradually relieving him, but pains every few moments exceedingly severe. Same electrodes and application as in No. 12. Ten-per-cent. solution of cocaine. Five cells, six minutes. Anæsthesia slight. Pain relieved. Can not endure so much current as No. 12.

Experiment No. 19.—Same case. Ten-per-cent. solution of cocaine. Nine cells of Grenet battery. Three milliampères and a half current strength. Six minutes and a quarter. Great relief and considerable anæsthesia.

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* I see that this has also been quite recently pointed out by J. Hoffman ("Neurolog. Ctrlbl.," Nov. 1, 1888).

EXPERIMENT No. 20.—Same case. Very little pain for past forty-eight hours since last application. Aconitine probably doing its work. Great tenderness on pressure over supra-orbital nerve. Cocaine as before. Eleven cells, seven minutes. Complete anæsthesia produced. No pain on pressure.

EXPERIMENT No. 21.—Same case and condition as in last. Cocaine as before. Fifteen cells, five milliampères, ten minutes. Same result.

EXPERIMENT No. 22.—Same as last. Fifteen to eighteen cells for eight minutes. Same result.

EXPERIMENT No. 23.—*Successful Use of Cocaine Cataphoresis in Inferior Maxillary Neuralgia.*—Tried by Dr. J. A. Booth, and notes kindly furnished me by him. Inferior maxillary branch of left trigeminal. Neuralgia for three weeks. Cathode in right hand. Anode over left mental foramen. Ten-per-cent. solution of cocaine. Both electrodes five centimetres in diameter. Seventeen Leclanché cells, seven milliampères current strength, five minutes and a half contact. Spoke very soon of relief caused. Slight anæsthesia produced.

EXPERIMENT No. 24.—*Deep Analgesia with the Cataphoric Use of Aconitine.*—I now performed several experiments upon myself with the same apparatus as before, but substituting an alcoholic solution of aconitine (gr. iv to ℥ j) for the cocaine on the anode. Result: In two or three minutes deep-seated analgesia but tactile hyperæsthesia, a painful burning sensation, the area covered by anode whitened and elevated. The analgesia to pricking and the burning sensation continued for an hour. The pallor disappeared after a quarter of an hour, giving place to redness. There was no excoriation.

EXPERIMENT No. 25.—*Relief of Dorsal Neuralgic Pains in Locomotor Ataxia by Aconitine Cataphoresis.*—S. B., male; a case of locomotor ataxia suffering from intense neuralgic pains in the back at mid-dorsal region. Cathode on left side of abdomen. Anode one centimeter in diameter with aconitine as in No. 24 to region of greatest pain. Fourteen Leclanché cells, five to six milliampères current strength, four minutes application. A white elevated disc larger than the area of anode was produced which was completely analgesic and anæsthetic for an hour, but in which there was a burning sensation for an equal length of time. The neuralgic pains were relieved for eight or nine hours. This was tried again a few weeks later with ten minims of tincture of aconite on the anode, with equal effect.

EXPERIMENT No. 26.—*Relief in a Case of Double Trigeminal Neuralgia from Cataphoric Use of a Mixture of Cocaine and Aconitine.*—E. B., female, aged thirty; excruciating double trigeminal neuralgia of a year's standing, upper two branches. Had tried blisters, electricity, and aconitine internally, and once had morphine habit. No day without pain. Twenty-eight chloride-of-silver cells. Water rheostat. Twenty-per-cent. solution of cocaine on anode one centimetre in diameter to right temple over painful spot for twelve minutes. Cathode six by ten centimetres in right palm. Complete anæsthesia and analgesia and relief in that side. Same for five minutes to left temple with like beneficial result. Then four minutes over main trunk of nerve in front of right ear with a mixture of equal parts of twenty-per-cent. solution of cocaine and the solution of aconitine (gr. iv to ℥ j), causing deep anæsthesia to touch and pain. With this last there was slight burning sensation at first, but it subsided in a minute or two. Relief from pain experienced for several hours.

EXPERIMENT No. 27.—*Cocaine and Aconitine Cataphoresis.*—I now thought it best to try some further experiments upon myself. A 6-x-10-ctm. cathode was placed in the left palm, and the one-ctm. anode over the left first interosseous, as before. The anode was well saturated with a mixture of aconitine and cocaine, as in the last experiment. Twelve chloride-of-silver cells; five minutes' application. Result: complete anæsthesia to touch, pain, and temperature over a space three times the area of the anode, without burning sensation as when aconitine was used alone. There was at first great pallor of skin beneath the anode, which gradually gave way to slight redness in a quarter of an hour. There was slight return of tactile sense in fifteen minutes, and in twenty minutes slight hyperæsthesia to touch, temperature, and pain.

EXPERIMENT No. 28.—*Trial without Current.*—Same electrode, saturated with same solutions as in No. 27. Held it on the back of my left hand without the galvanic current for eight minutes, frequently rubbing in order to hasten absorption. There was no effect whatever save redness produced by rubbing; no anæsthesia.

EXPERIMENT No. 29.—*Very Mild Current for a Longer Period of Time Successful.*—As in some of the experiments here described unpleasantly strong currents had been used, I tried upon myself the effect of a mild current for a longer period of application than usual. Same electrodes, points of contact, and solutions as in No. 27. Six chloride-of-silver cells; current imperceptible; ten minutes' duration. Marked anæsthesia to pain, touch, and temperature resulted as before.

EXPERIMENT No. 30.—*Use of Chloroform without Current.*—Held a sponge, two ctm. in diameter, well saturated with Squibb's chloroform, against mid-dorsal surface of left hand, frequently rubbing, for ten minutes. There was smarting, stinging pain during the whole application, with intense redness, a very slight superficial anæsthesia to touch, but none to pain of pricking. No current used. The trivial anæsthesia disappeared in two minutes, when the part became hyperæsthetic. The redness disappeared in an hour. There was no excoriation of epidermis.

EXPERIMENT No. 31.—*Cataphoric Use of Chloroform and Bad Effects.*—Same electrodes and position as in No. 27. Anode saturated with Squibb's chloroform. Eighteen chloride-of-silver cells. Six minutes' application. Complete anæsthesia to touch and pricking with needle in area of anode, lasting barely four minutes. Application more painful even than that of aconitine. There was no insulation by chloroform. The frequent use of the interrupter showed that a strong current was passing. There was a general redness at first. An hour later there were œdema and pallor, surrounded by an aureole of redness. Twelve hours later there were swelling, congestion, redness, dermatitis, and vesication. A week elapsed before complete healing of the injury. There was sloughing of the epidermis and part of the cutis vera.

### CONCLUSIONS.

The cataphoric action of the constant current is beyond doubt or question.

The use of the Adamkiewicz electrode or of chloroform for cataphoresis is altogether inadmissible.

My own experiments have been chiefly with cocaine and aconitine.

With the former, or with the two combined, a deep anæsthesia may be produced in conjunction with the anode, sufficient for the relief of pains in superficial nerves, or for small operations—such as the painless removal of cutaneous growths, or the electrolysis of hair roots.

The anæsthesia may be made rapid by the use of strong currents—an advantage in neuralgias—or slowly produced with a current imperceptible to the patient.

Wherever and whenever the anode is employed for the relief of pain, its efficacy will be greatly increased by moistening it with a ten- to twenty-per-cent. solution of cocaine.

Rubbing the skin with a little alcohol or chloroform, to remove the oil globules previous to the application, will hasten the effect.

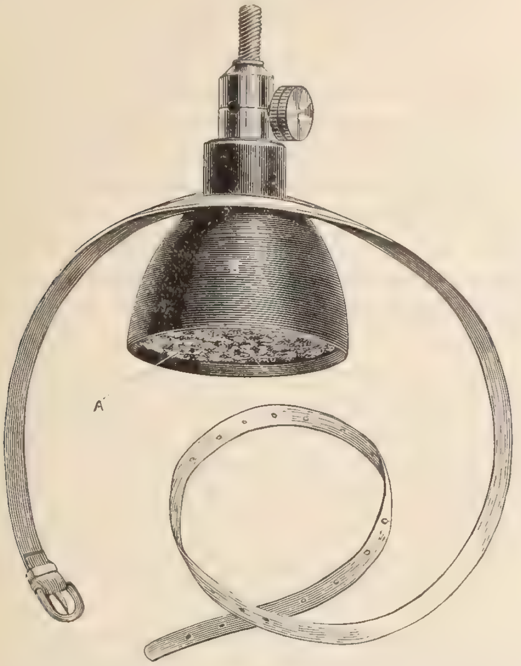

Fig. 2.—A simple cataphoric electrode with rubber cap to prevent evaporation. A, sponge-covered metal electrode; B, soft-rubber bell-shaped cap.

Cocaine cataphoresis is particularly of benefit in neuralgias of the trigeminus and its branches.

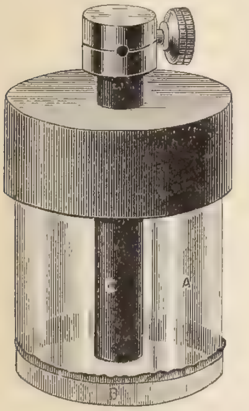

Fig. 3.—A perfected diffusion or cataphoric electrode. A, glass holder for fluid; B, membrane bottom of cavity; C, carbon conductor in a cork.

If volatile solutions are used, evaporation may be prevented by the employment of a tight-fitting, bell-shaped, soft-rubber cap, adjusted over the end of the electrode, as in Fig. 2. This is quite sufficient for all therapeutic purposes.

For more exact physiological experiment or dosage, it would be better to employ the cataphoric electrode I have devised (illustrated in Fig. 3), which corrects the imperfections of that of Adamkiewicz.*

The law should not be lost sight of that the amount of electrical osmosis grows with the resistance of the fluid acted upon. Hence the enormous resistance of chloroform adds to its cataphoric power. The electrode of Adamkiewicz doubtless did carry chloroform into the tissues, notwithstanding the criticisms of Wagner and Hoffman, for the bottom, when in use, is covered with moist linen, and no doubt a thin layer of chloroform would get between the circular metallic rim and the skin. Hence both Adamkiewicz and Hoffman are right in some of their statements and wrong in others. My own experiments with chloroform sufficiently attest this.

In none of the experiments with cocaine or aconitine did any excoriation or other injury to the skin follow, but occasionally there was slight scaling of the epidermis. There were, of course, no constitutional effects.

I would suggest the use of electric cataphoresis for other purposes than that of producing topical anæsthesia. Wherever, for instance, iodine is used as a local application over swellings or tumors, the galvanic anode will greatly add to the efficacy of the medicament.

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* I have had these electrodes made for me by Messrs. Waite & Bartlett, of this city.

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# TREATMENT OF PNEUMONIC FEVER.

## By EDWARD F. WELLS, M.D.,

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(*Concluded from page 378.*)

In the beginning of the attack the pain is usually severe, and occasionally excruciating. It is generally limited in duration to the first three or four days, declining and ceasing spontaneously. It is the opinion of all writers that pain should be relieved, and the only difference in their views is as to the means most useful and least detrimental in the attainment of this end.

Early in the attack sinapisms and dry or wet cups are beneficial, and later stimulating liniments and blisters, according to the exigencies of the case, are useful. Hot applications are grateful and beneficial throughout the entire course of the disease. These measures not only relieve pain and dyspnœa, but they also tend to limit the deposit and promote the absorption of the exudate.

The sinapism should be large and more or less energetic according to the age and nervousness of the patient. It should be placed over the local seat of disease and allowed to remain only sufficiently long to cause decided redness of the surface. It may be repeated at intervals until pain is no longer complained of.

If the pulmonary inflammation is unilateral, the affected side may be immobilized by careful strapping,* or if it is bilateral, a thoracic bandage † may be applied. These must be promply removed if there is inability to expel the bronchial secretions, and they are only useful in the early stages of the attack.

A blister often relieves pain almost immediately,‡ and, if milder measures fail to afford relief, one should be applied.

The blister finds its most appropriate place in those cases in which pain continues long past the time in which it usually ceases, with delay in the appearance of the crisis. Under such circumstances I have so often seen benefit promptly follow the application of a blister as to render it highly improbable that the improvement was merely a coincidence.[*]

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* Bemis, "N. O. Med. Jour.," July, 1878; Hilton, "Lancet," New York, 1852, vol. i, p. 350; Mitchell, "Therap. Gaz.," Nov., 1885, p. 721.

† Gehrung, "Am. Prac.," Aug., 1877, p. 73, and "St. Louis Clin. Rec.," June 17, 1874; Hartshorne, "Essen. of the Prac. of Med.," 1874, p. 167; Roberts, "Practitioner," June, 1874.

‡ Alford, "Med. World," 1888, p. 230; Brunton, "Therapeutics," 1885, p. 926; Luckie, "Am. Jour. of the Med. Sci.," vol. viii, p. 354.

The location of the blister should be, as a matter of consistency, over the local lesion, although this has been a matter of amusing dispute.

Thus Baglivi[†] applied them to the legs, Andral[‡] to the legs and arms, Cunning[#] to the shoulders, while Cullen,[‖] Pringle,[△] and others gravely argued that they should be applied to the chest.

For the relief of the soreness remaining after the subsidence of the acute pain, and which often continues long into convalescence, nothing is so useful as a terebinthinate liniment.[◊] Indeed, it may be employed with advantage throughout the attack.

Morphine should be given[↧] in small doses, repeated as frequently as necessary to allay the pain,[↕] anxiety, and harassing cough. If the pain is very severe, it may be used hypodermatically.

Opium, which is a royal remedy in the early stages of pneumonic fever, was either condemned or awarded only the scantiest praise by the older authors.[⇞] It was, however, used by Hamilton[**] with results so satisfactory as to "fill him with astonishment." It seems strange that so long a time was required to make its virtues widely and fully known, yet so learned a physician as Laennec[††] was not aware that it had been recommended alone before his day, and Armstrong[‡‡] deemed it necessary to refer very particularly to it.

Although entertaining an exalted opinion of the usefulness of this drug in the very earliest stages of properly selected cases, yet I deem it a duty to enter my emphatic protest against the reckless practice which keeps the patient profoundly narcotized from the time he is first seen by his attendant until he is ready for the undertaker, or, perchance, escaping both the disease and its more formidable remedy, (?) recovers.[*]

Solanine,[†] hyoscyamus,[‡] asclepias tuberosa,[#] the bromides,[‖] etc., have been offered as substitutes for opium,[△] but they are almost worthless when relief is really required.

The cough in the early days of the attack will be apt to be very frequent, painful, and distressing, and will require attention. By keeping the atmosphere of the sick-room moist and of an equable temperature, and by the use of proper remedies, the cough may be greatly relieved. Morphine, in small doses and repeated at suitable intervals, is a most useful remedy. It may be often advantageously combined with chloroform, dissolved in a palatable syrup. Other articles of the materia medica—*e. g.*, codeine,[◊] belladonna,[↧] oxalate of cerium,[↕] cocaine,[⇞] etc.[**]—form useful additions or substitutes under certain circumstances. If the cough seems aggravated by dryness of the bronchial mucous membrane, apomorphine, pilocarpine, or ipecacuanha may be added to the cough-mixture. If, however, there is excessive secretion, atropine is the proper adjuvant.

Dyspnœa is a symptom which is very distressing to the patient. It depends upon various causes, most of which are dangerous conditions, and it should be relieved if it is possible to do so. If it is due to an overfull right side of the heart and the accompaniments of this state, free bleeding is the remedy to be relied upon.

Veratrum viride and other arterial sedatives are useful, but they do not compare favorably in promptness and efficiency with venesection in severe cases.

When there is joined to the dyspnœa irregularity of breathing, with great nervous excitement, gelsemium acts very nicely.[††] It diminishes the frequency of the respirations, obtunds nervous sensibility, and acts upon the sympathetic nerve.[‡‡]

If the difficulty in breathing depends upon a filling of the air-passages with bronchial secretions, an emetic,[##] especially in infantile cases, is indicated.

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[*] For further information see Chomel, "Pneumonie," Leipzig, 1841, S. 383; Cunning, "Dublin Hosp. Reports," vol. v; Gerhard, "Diseases of the Chest," Philadelphia, 1860, p. 205; Hart, "Jour. of the Am. Med. Assoc.," Oct. 10, 1885; Lépine, "Pneumonie," Wien, 1883, S. 171; Watson, "Prac. of Phys.," Philadelphia, 1845, p. 586. They are objected to by Bettelheim, Lépine's "Pneumonie," S. 171; Chambers, "Lancet," New York, 1862, vol. ii, p. 260; Dauvergne, "Med. Rec.," May 16, 1885, p. 546; Dejean, "Bull. gén. de thérap.," 1885; Flint, "Prac. of Med.," Philadelphia, 1868; Fox, "Reynolds's Syst. of Med.," Philadelphia, 1880, vol. ii, p. 213; Goldmann, "Med. Rec.," Jan., 1884; Louis, "Mém. sur la saignée"; Wyss, "Fortschr. d. Med.," Jan. 5, 1887; Ziemssen, "Pneumonie," Berlin, 1862, S. 282.

[†] "Prax. med.," 1751.

[‡] "Med. Clin.," Philadelphia, 1843, vol. ii, p. 208.

[#] *Op. cit.*, and "Am. Jour. of the Med. Sci.," vol. ii, p. 432.

[‖] "Prac. of Phys.," Philadelphia, 1792, vol. i.

[△] "Dis. of the Army," London, 1768.

[◊] See, also, Todd, "Lancet," New York, 1855, vol. ii, p. 498.

[↧] Even to infants. See Holt, "Med. Rec.," Feb. 21, 1885, p. 203.

[↕] Objected to by many. See McBride, *op. cit.*; Raven, "Practitioner," vol. xxxi, p. 42; Loomis, "Prac. of Med.," New York, 1884; *et al.*

[⇞] Borsieri, "Med. Prac.," vol. iv; Chomel, *op. cit.*, S. 383; Frank, "Cur. hom. morb.," lib. ii; Lieutaud, "Méd. prat.," Paris, 1761; Pringle, "*op. cit.*; Störck, "Feb. irreg. hist.," 1766; Sydenham, "Works," London, 1788, vol. i; Willis, "De med.," S. i, cap. viii; *et al.*

[**] "Med. Com.," 1785, vol. ix, p. 196.

[††] "Med. Auscult.," New York, 1830, p. 252.

[‡‡] "On Fevers," 2d ed., p. 244.

[*] Gadbury, "Abortive Treat. of Pneumonia."

[†] Brunton, *op. cit.*, p. 835.

[‡] Tribolet, "Allg. med. Ann.," 1816.

[#] Sawyer, "Jour. of the Am. Med. Assoc.," July 31, 1886, p. 123.

[‖] Porteous, *ibid.*, Aug. 7, 1886, p. 154.

[△] Gilbertson, "Lancet," 1884, vol. i, p. 129; Swett, "Dis. of the Chest," p. 112.

[◊] Garrod, "Med. Times and Gaz.," March 26, 1864, p. 333; Mohammed, "Birmingham Med. Rev.," August, 1885.

[↧] Hart, *op. cit.*

[↕] Smith, "N. Y. Med. Rec.," May 1, 1880.

[⇞] Brunton, *op. cit.*, p. 222; Gräpfer, "Allgem. Cent.-Zeit.," June, 1885; Schneider, "Therap. Gaz.," March, 1885, p. 774.

[**] Ergotine, see Allan, "Brit. Med. Jour.," 1884, vol. ii; vapor of glycerin, see Trastour, "N. Y. Med. Jour.," Jan. 3, 1885, p. 28; physostigma, see Fraser, "Edinb. Med. Jour.," August, 1863, p. 123; elenine, see Valenzuola, "Med. Rec.," May 31, 1884; general, see Fothergill, "Med. Rec.," Sept. 5, 1885, p. 253; Peruvian bark, see Wesley (Rev. John), "Primitive Physic, or an Early and Natural Method of Curing all Diseases," 1747.

[††] Davis, "Jour. of the Am. Med. Assoc.," vol. ii, p. 129.

[‡‡] Bartholow, "Mat. Med.," New York, 1876, et "Prac. of Med.," New York, 1880.

[##] Prettyman, "Med. Rec.," May 21, 1887, p. 579, *et al.*

Jürgensen [*] speaks very highly of hypodermatic injections of apomorphine in these cases, but I must confess that my experience with this drug has not been such as to lead me to entertain a favorable opinion of it under these circumstances. In the four cases in which I employed it the emesis was prompt and efficient, but there followed a depressed state of the system, with a lessened disposition to get rid of the increased secretion by coughing, so that the patients were eventually made worse by the treatment, and all died.

In some of the cases in which apnœa is threatened by the retention in the bronchi of abundant mucous and serous secretions, the patient may be relieved by placing him in the prone position [†] in such manner as to make the mouth the lowest part of an inclined plane, thus allowing the fluids to escape by gravitation. This measure I have employed on several occasions, and always with the most gratifying success. It is especially useful in the cases complicated by pulmonary œdema.

For the relief of dyspnœa depending upon pulmonary œdema, bloodletting is very efficient.[‡] In this state death is imminent, and there is no time to await the slow action of medicines. A measure is required which will at once relieve the respiratory embarrassment, and this is found in venesection.

After the respiratory passages have been freed from the accumulated secretions, means to limit their future production and promote their removal are indicated. Happily, we are in possession of a few agents which directly meet this necessity. Of such agents, atropine, chloride of ammonium, and turpentine are especially worthy of consideration.

Atropine causes a hyperæmic dryness of the bronchial surfaces with absence of secretions. The chloride of ammonium, either internally administered or locally applied, has a similar effect, with the difference that the mucous membrane is in an anæmic condition.[#] Turpentine-fumes continuously inhaled cause a diminution of the bronchial secretion, but an increase follows their withdrawal. [‖]

In those cases in which the dyspnœa depends not so much upon the amount of the secretion as upon its excessive viscidity, rendering expectoration difficult or impossible, it is advisable to render it less viscid and increase its quantity by such agents as pilocarpine, emetine, apomorphine, acetic acid, benzoate of sodium, steam, etc.

In dyspnœa due to a paretic condition of the respiratory muscles, strychnine is our most valuable remedy.[△] In this state the secretions are not only retained, but the total quantity of air respired is far below the capacity of the lungs and the requirements of the system. Strychnine stimulates the respiratory centers, and in several cases in which I have invoked its aid, prompt and beneficial results were speedily obtained.

In extreme cases[*] artificial respiration may be necessary. In one of my cases this procedure was continued for fifteen hours, with the result of saving the patient's life. During all these long hours respiration would cease whenever there was any intermission in the artificial respiration. In another case artificial respiration was kept up for four hours, but the end was finally fatal.

When the dyspnœa is due to spasm of the bronchi, inhalations of belladonna, [†] stramonium, chloroform, [‡] nitrite of amyl,[#] pyridine, [‖] etc., may be had recourse to. Inhalations of oxygen [△] are indicated in cyanotic dyspnœa, and cardiac tonics when there are evidences of heart failure. [◊]

Quebracho has been presented as a specific remedy in all forms of dyspnœa.[↧] I have employed this drug in a number of cases, but the results observed were not such as to lead me to recommend it. No method of treatment can be satisfactory which does not take into consideration the cause of the difficult respiration.[↕]

With the treatment above mentioned, nervous irritation will have been allayed and the patient will obtain sleep—not much, it is true, yet enough for his needs—but in some cases restlessness and sleeplessness persist, [⇞] and this symptom must be relieved by such hypnotics as chloral, paraldehyde,[**] urethrane, [††] hydrate of amylene,[‡‡] sulphonal,[##] etc.

In those cases in which the sleeplessness is combined with profound prostration, alcoholic stimulants should be given with the hypnotic. In cases with a lesser degree of prostration, kümmel, in half-ounce doses, diluted with hot and sweetened [‖‖] water, often acts like a charm.

Delirium must be met in various ways, according to the cerebral and general conditions present; sedatives [△△] when there is cerebral excitement, and stimulants [◊◊] in the opposite state. Coma is to be met with hypodermatic injections of atropine and strychnine and external counter-irritation.[*]

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[*] Ziemssen's "Handb.," Bd. v, 1877, S. 252.

[†] See Hunter, "Lancet," New York, 1859, vol. ii, p. 185.

[‡] Flint, "Med. News and Abst.," September, 1881, p. 520.

[#] See also Mascagni, "Bibliothek Med.," Bd. xlii, S. 251; carbonate of sodium.

[‖] See Brunton, "Brit. Med. Jour.," Nov. 14, 1874; muscarine.

[△] Habershon, "Lancet," 1887, vol. ii, p. 1168; Thorowgood, *ibid.*

[*] Hermann ("Lungenentzündung," München, 1880, S. 38) recommends hypodermatic injections of camphor.

[†] Davies, "Brit. Med. Jour.," Mar. 20, 1886.

[‡] Breithaupt, "Deutsche med. Zeit.," 1856, No. 39.

[#] Fraser, "Lancet," 1887, vol. ii, p. 52.

[‖] Sée, "Therap. Gaz.," 1885, p. 746; Silva, "Lond. Med. Rec.," Feb., 1887.

[△] Clark, "N. Y. Med. Jour.," Aug. 11, 1883; Kellogg, "Jour. of the Am. Med. Assoc.," Aug. 25, 1888, p. 258; Sawyer, "Med. Bull.," 1887.

[◊] Drysdale ("Med. Press and Cir.," Dec. 8, 1886) recommends minute doses of crotalus under these circumstances.

[↧] Berkart, "Brit. Med. Jour.," July 17, 1880; Eloy et Huchard, "Arch. de phys.," Avr. 1, 1886; Flint, "Med. News and Abst.," 1881; Larrion, "Therap. Gaz.," June, 1884, p. 283; Maricini, "Lond. Med. Rec.," May, 1883.

[↕] See Patton, "Jour. of the Am. Med. Assoc.," Aug. 11, 1883, p. 139.

[⇞] As is often the case. See Garland, "Pneumonia," 1888, p. 99.

[**] Genkin, "Proc. of the Kaluga Med. Soc.," Nov. 30, 1885, p. 42; Sauter, "Fortschr. d. Med.," Aug. 5, 1885; Strahan, "Lancet," Jan. 31, 1884.

[††] Oliver, "Lancet," 1887, vol. ii, p. 204.

[‡‡] Buchan, "Berliner k. Wochenschr.," 1888, S. 228; Von Mehring, "Therap. Monatschr.," 1887.

[##] Oesterreicher, "Berliner k. Wochenschr.," 1888, S. 501; Rabbas, *ibid.*, S. 330; Rosin, *ibid.*, S. 499.

[‖‖] Preferably with saccharin. See "Brit. Med. Jour.," Oct. 15, 1887.

[△△] Sturges, "Pneumonia," London, 1876.

[◊◊] Graves, "Clin. Lec.," vol. i, p. 257; "Lancet," New York, 1859, vol. i, p. 54.

There is no single point in the treatment of pneumonic fever requiring nicer discrimination than the use of alcoholic and other stimulants. Alcohol is certainly a remedy of great value in suitable cases, but it is likewise capable of doing much harm when inappropriately given. It is not required in the ordinary case during the continuance of the acute symptoms, but at a later time it promotes resolution and hastens the completion of convalescence. It may, however, be allowed at any time to facilitate expectoration, quiet nervous excitement, avert collapse, sustain the flagging vital powers, or to fulfill other special indications.

The use of stimulants throughout the entire course of the disease as a special line of treatment has had the advocacy of a great array of physicians,[†] the chief of whom were Brown[‡] and Todd,[#] but this practice is open to serious objections,[‖] especially when the doses are large[△] and frequently repeated.

Alcohol is recommended in the pneumonic fever of drunkards by Chomel[◊] and others, but I prefer to combat the symptoms of depression which are prone to arise in these cases with strychnine, atropine, cocaine, morphine, etc.

The especial field for alcohol in this disease is in the cases marked by asthenia, great prostration, enfeebled circulation, muscular tremors, sleeplessness, delirium, dryness of the tongue, sordes on the teeth, etc.[↧]

In the low typhoidal form of the disease, especially when there is a low, muttering delirium, musk[↕] has long been recommended, and I can attest, as the result of a considerable experience, that its effects are at times marvelous.[⇞]

The dose of musk is from five to ten grains, and, when employed, it should be given in full doses. Owing to its very high price, there is a temptation on the part of the prescriber to order it in inadequate doses, and for the dispenser to furnish light weight or an inferior or adulterated article, and failure to obtain satisfactory results may be often attributed to these circumstances.

When there is failing vitality, turpentine[*] and its derivatives, terebene[†] and hydrate of terpine, have been, in my hands, valuable stimulants, both general and local.

The carbonate of ammonium has been long and largely[‡] employed in this disease as a stimulant, a solvent of fibrine in the blood, and a direct antipneumonic remedy. In former years I frequently prescribed this salt, but the most careful scrutiny has failed to show any beneficial results, and I have therefore abandoned its use. The salicylate of ammonium[#] is useful whenever there is a rheumatic complication.[‖]

In 1862 Bennett[△] published his well-known paper on the "Restorative Treatment of Pneumonia," which, although it embodied no new principle, attracted universal attention and has remained a landmark to this day. His system was essentially the treatment advocated by Brown,[◊] the "supporting" treatment of various writers,[↧] and the stimulating treatment of Cunning,[↕] Todd,[⇞] and others. In the main it consisted in dispensing with phlebotomy, antimony, and other "lowering" measures, except in the most sthenic cases, and in the administration of wine, beef-tea, and other stimulants and nourishing foods—paths already well trodden. The system rapidly grew in favor and was adopted by a majority of subsequent systematic writers.[**]

The treatment above mentioned, modified according to the individual peculiarities of the patient and the stage of the disease, is appropriate from the beginning of the attack to the end of the exudative process. If it has been early put in operation, the symptoms will soon have been ameliorated in the majority of cases, and in a few the disease will have been aborted. In any case the patient will have been more composed with the relief afforded and more able to meet with equanimity some of the, to him, alarming symptoms of the malady when it has reached its height. If abortion occurs it is quickly manifested, otherwise the disease passes on to the second stage—that of complete consolidation—and the physician must content himself with efforts toward conducting the case to a successful termination. The vast majority of patients when first seen by the medical attendant have already arrived at this stage and the most favorable time for aborting the disease has long passed by, although this possibility yet remains.

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[*] Copland, "Med. Dic.," New York, 1855, vol. i, p. 1210; Jones, "Montreal Med. Jour.," Mar., 1855.

[†] Anstie, "Lancet," Mar. 21, 1874; Beale, "Brit. Med. Jour.," July 4, 1863, p. 12; Chambers, *op. cit.*; Cunning, *op. cit.*; Douglas, "Med. World," 1885, p. 143; Ferguson, "Med. News," Nov. 28, 1885, p. 605; Fox, *op. cit.*; Fincham, "Lancet," New York, 1857, vol. ii, p. 71; Green, "Quain's Dic. Med.," p. 890; Hassal, "Lancet," New York, 1857, vol. ii, p. 73; Humphreys, "Lancet," 1887, vol. ii, p. 1109; Nothnagel, "Berliner k. Wochenschr.," 1884, S. 288; Shrady, "Jour. of the Am. Med. Assoc.," Nov. 28, 1885, p. 615; Smith, "Med. World," 1885, p. 125; Sturges, *op. cit.*, p. 236; Waters, "Clin. and Prac. Med.," London, 1887; Winn, "Med. Times and Gaz.," Sept. 7, 1872.

[‡] "Elements of Medicine."

[#] "Clin. Lec.," London, 1860.

[‖] Davis, "Jour. of the Am. Med. Assoc.," 1883, and "Prac. of Med.," 1884; Patten, "Therap. Gaz.," 1885, p. 234; Thorowgood, "Lancet," 1887, vol. ii, p. 1168.

[△] Brunton, "Pharmacology," p. 653.

[◊] "Jour. de méd.," t. vii, p. 284.

[↧] Flint, "Med. News," Nov. 28, 1885, p. 605; Loomis, Pepper's "Syst. of Med.," vol. iii.

[↕] Brunton, "Pharmacology," Philadelphia, 1885, p. 914; Chomel, "Pneumonie," Leipzig, 1841, S. 393; Jacquet, "Bibliot. méd.," t. lix, p. 19; Lebert, "Berliner k. Wochenschr.," Oct. 2, 1871; Rĕcamier, "Gaz. méd.," 1830, p. 36; Trousseau et Pidoux, "Traité de thérap.," t. i, p. 31.

[⇞] It is also a respiratory stimulant.

[*] Baruch, "Med. Rec.," Dec. 24, 1887, p. 787; Huss, "Brit. and For. Med.-chir. Rev.," Oct., 1846; McAldowie, "Brit. Med. Jour.," May 29, 1886.

[†] Cammann, "Med. Rec.," Oct. 8, 1887, p. 476; "Cin. Lan. and Clin.," Jan. 15, 1887, p. 90; D'Estrées, "Bull. gén. de thérap.," 1884; Guelpa, *ibid.*, April 30, 1885; Lépine, "Med. Rec.," July 18, 1885, p. 68; McAldowie, *op. cit.*; Murrell, "Brit. Med. Jour.," Dec. 12, 1885, and July 26, 1886; Wood, "Therap. Gaz.," Sept. 15, 1886, p. 605.

[‡] Brunton, *op. cit.*, p. 543; Cunning, *op. cit.*; Gerhard, "Dis. of the Chest," 1860, p. 217; Patten, "Therap. Gaz.," 1885, p. 234; Paton, "Am. Jour. of the Med. Sci.," Oct., 1887, p. 374; Richardson, "Jour. of the Am. Med. Assoc.," Dec. 11, 1886, p. 661; Rochester, *ibid.*, Nov. 28, 1885, p. 614; Waters, "Dis. of the Chest," 1868, p. 50; Watson, "Prac. of Phys.," Philadelphia, 1845, p. 586.

[#] Barnett, "Jour. of the Am. Med. Assoc.," Dec. 11, 1886, p. 654; Jackson, "Trans. of the Va. Med. Soc.," 1888; Wick, "Jour. of the Am. Med. Ass.," Feb. 11, 1888, p. 169.

[‖] Salicylic acid and other salicylates are also useful. See Buckler, "Med. News," June 17, 1882, p. 652; Deplatz, "Bull. de l'acad. de méd.," Sept. 7, 1880; Drzewiscki, "Med. Rec.," Aug. 28, 1888, p. 205; Herrlich, "London Med. Rec.," July 15, 1887; "Medycyna," 1887, Nos. 44, 45, 46.

[△] "Lancet," New York, 1862, vol. ii, p. 302. See, also, "Lancet," 1865, vol. i, p. 195.

[◊] "Elements of Medicine," Portsmouth, 1803.

[↧] Fincham, "Lancet," New York, 1858, vol. i, p. 524, *et al.*

[↕] "Trans. of the Dublin Col.," vol. v.

[⇞] *Op. cit.*

[**] Bristowe, "Prac. of Med.," London, 1884; Chambers, "Lancet," New York, 1862, vol. ii, p. 260; Flint, "Prac. of Med.," Philadelphia, 1868; Waters, "Liverpool and Manchester Reports," vol. iv; *et al.* It was formally objected to by Copland, "Lancet," April 8, 1865, p. 382.

After the acute febrile symptoms have subsided, means should be adopted to rid the lung as quickly as possible of the inflammatory exudate. For this purpose small or moderate doses of iodide of potassium may be given until the exudate has been completely removed by absorption and expectoration.

Iodide of potassium has long been used in every stage of the disease.[*] Schwartz[†] claims that, when give nearly in very large doses, it will certainly cut short the attack, but such results have not been obtained by others.[‡] The iodide as it is eliminated through the lungs acts upon the saline exudate in such a way as to facilitate its liquefaction and subsequent absorption.

Various other remedies to promote absorption have been recommended, many of which are worthy of consideration. Of these may be mentioned iodide of ammonium,[#] chlorate of potassium,[‖] chloride of ammonium,[△] counter-irritants, etc.[◊]

Convalescence is usually rapidly completed, yet it may be accelerated, by judicious tonic and stimulating treatment. The application of these to the individual case must be made on general principles—to one, iron; to another, a simple bitter; to another, cod-liver oil; and to another, alcohol may be given, either alone or variously combined. All should have food at frequent intervals and regulated exercise. Forced inspiration should be practiced several times daily for several weeks, in order that the respiratory tract may remain permeable and pleuritic adhesions be prevented.

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[*] Fox, *op. cit.*, p. 211; Gualdi, "Am. Jour. of the Med. Sci.," Oct., 1884, p. 564; Upshur, "Ranking's Abst.," 1845; Zinis, "Bull. gén. de thérap.," June 30, 1887; Brunton, *op. cit.*, p. 512.

[†] "Deutsche med. Wochenschr.," 1881, S. 13.

[‡] Orth, "Deutsche med. Wochenschr.," 1881.

[#] Bartholow, "Prac. of Med.," New York, 1880; Brunton, *op. cit.*, p. 520.

[‖] Davis, "Prac. of Med.," Chicago, 1884; Pattee, "Jour. of the Am. Med. Assoc.," July 24, 1886, p. 91.

[△] Rodman, "Med. Rec.," 1875; Todd, "Med. Times and Gaz.," July 15, 1854, p. 51; Walker, "Med. World," 1886, p. 336.

[◊] See "Allg. Wiener med. Zeit.," Nov. 10, 1874; Allingham, "Dis. of the Rectum," p. 19; Davis, "Jour. of the Am. Med. Assoc.," April 5, 1884, p. 371; Ewart, "N. Y. Med. Jour.," April 9, 1887, p. 420; Dally, "Bull. gén. de thérap.," Sept. 30, 1881; Fothergill, "Handb. of Treat.," p. 374; Haigh, "Med. World," 1888, p. 197; Holmes, "Miss. Valley Med. Mon.," 1887; Kobert, "Practitioner," 1885; Popoff, "Lond. Med. Rec.," June, 1886; Sunol, *ibid.*, Dec., 1884; Williams, "Cycl. of Prac. Med.," vol. i, p. 321; Wycisk, "Allg. Med. Cen.-Zeitung," 1875.

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# THE VALUE OF ELECTRO-THERAPEUTICS IN LESIONS OF THE OPTIC NERVE.[*]

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THE chapter on the practical application of electro-therapeutics to the diseases of the optic nerve is, unfortunately, at least so far as its results are concerned, a very brief one. The statements advanced by Benedikt, Driver, Erb, and others have not stood the test of time and added experience at the hands of other observers. Ophthalmologists owe much to Benedikt for first doing away with the crude notions formerly held in regard to the application of electricity in the treatment of diseases of the eye. He first called attention to the advisability of applying the galvanic current to paralyzed ocular muscles in a systematic manner. But the views which he originally held in regard to the causation of intracranial disease with ophthalmoscopic lesions, and the connection of the latter with affections of the sympathetic nerve, have been almost entirely given up by modern ophthalmologists. Galvanization of the sympathetic nerve in the neck for inflammation of the optic nerve, as recommended by Benedikt, has been entirely abandoned.

Electricity has failed to vindicate its pretensions to any real value in the treatment of optic-nerve lesions, though, by its capacity for exciting phosphenes, it fosters the hopes of a credulous incurable patient.

Benedikt considered that most of the lesions of the optic nerves were due to disturbances of the sympathetic or vaso-motor nervous system. He professed great success in the treatment of pathological processes in the brain by galvanization of the sympathetic, and this success he thought depended upon the influence exerted upon the neurosis of the sympathetic nerve which accompanies the pathological process in the brain. Hence he maintained that the neuro-retinitis, symptomatic of certain forms of brain disease, might be cured by this galvanic treatment.

Benedikt alleged most brilliant results from electro-therapy in cases of neuro-retinitis, but admitted that they were very negative in actual atrophy, whether the latter were primary—as in tabes dorsalis—or secondary to inflammation and infiltration of the tissue of the optic nerves. He reports one case of atrophy of the optic nerve due to tabes, in which an improvement in the vision followed galvanization of the entire length of the vertebral column without any local treatment of the optic nerves; but he says nothing concerning the ultimate result in this case. His plan of treatment consisted in placing the negative pole on the forehead, and passing the positive pole gently to and fro over the temple or inner canthus, the current being of sufficient intensity to produce phosphenes or subjective light-sensations. A temporary improvement in the vision he met with very frequently. He considered that the mechanism of this method of treatment was not through a direct irritation of the optic nerve, but rather by a reflex irritation through the fifth nerve. The proof of this explanation he thought lay in the fact that the subjective light-perception did not depend absolutely on the strength of the current, but upon the sensitiveness of the branches of the trigeminus.

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[*] Read before the New York Academy of Medicine, March 21, 1889.

Benedikt also professed good results in papillitis, due to intracranial tumor, by galvanizing the sympathetic nerve in the neck. Another observer who alleges the most surprising results from the employment of galvanism as a therapeutic agent in inflammatory processes in the optic nerve is Driver, of Chemnitz (see "Arch. of Ophthal. and Otol.," iii, 1, p. 226). He advises the application of the constant current in three ways—viz.: 1. Through the head, either longitudinally with the anode on the nucha and the cathode on one frontal protuberance; or transversely, with the anode and cathode on each temple or both mastoid regions. 2. Galvanization of the sympathetic on one or both sides, with the anode on the nucha and the cathode on the region of the upper cervical ganglion. 3. Locally on the eye, with the anode on the nucha and the cathode on the closed lids. He employs the positive pole always fixed and the negative pole movable, and a sitting should last from one to two minutes. He uses from six to fourteen elements of a Stöhrer's battery, and is careful to avoid inducing vertigo. He adopts Benedikt's theory of the causation of choked disc, namely, a disordered innervation of the sympathetic. In what he calls neuro-retinitis symptomatica, or neuro-retinitis in consequence of cerebral lesions, he claims that galvanization of the sympathetic sometimes produces brilliant results in both central and peripheral acuity of vision. The dizziness, headache, attacks of sudden blindness, and occasional paralysis of the ocular muscles usually cease. The galvanization should be done daily on both sides.

In congenital amblyopia and in the various forms of toxic amblyopia, Driver admits that the results of galvanization are less encouraging. These brilliant results, transient though they are, have not been met with by more recent observers among the ranks of the ophthalmologists.

Leber has professed some moderate successes in optic neuritis due to heredity or congenital tendency. In simple, uncomplicated optic-nerve atrophy he recommends the constant current as promising either positive improvement or an arrest of the process of degeneration. It very often, however, does neither. There are no rigid rules laid down by Leber as to how the electrical treatment is to be employed. He sometimes recommends direct irritation with the cathode placed on the closed lids or the supra-orbital region, while the anode is placed on the neck, the sessions lasting for but a few minutes.

Soelberg Wells advised the placing of the positive pole on the nape of the neck and the negative pole on the closed lids. He used from four to fourteen cells, and passed the current for from one to three minutes every day.

Other observers recommend that the current be transmitted through the head from before backward, or obliquely. In case the atrophy of the optic nerve is due to some spinal lesion, as in tabes, Schmidt-Rimpler has advised the application of the constant current to the entire length of the spinal column. In cases of injury to the optic nerve some authors have advised the application of the galvanic current directly through the head, but we have no sufficient testimony of any great success in this lesion.

In traumatic anæsthesia of the retina, as from a blow upon the eyeball, the constant current has been said sometimes to produce rapid improvement in the acuity of vision when applied with the positive pole at the nape of the neck and the negative pole on the closed lids.

Up to within the last two years, the reporter has employed the galvanic current in every case of optic nerve lesion that occurred in his private practice, and in many cases in hospital practice. His results were so negative, and in many cases so unfavorable, that for two years he has entirely given up galvanism as a method of treatment in these diseases. From his own experience and that of others, as found in ophthalmological literature, he thinks he is justified in drawing the following conclusions:

1. In optic neuritis from whatever cause, and in papillitis or choked disc from intracranial tumors, galvanism, whether direct through the closed lids and eyeball, or indirect through the cervical sympathetic, has no real value and should be abandoned.

2. In optic neuritis, due to heredity or congenital tendency, galvanization of the sympathetic nerve in the neck is of no value.

3. In simple, uncomplicated atrophy of the optic nerve, the use of the constant current can not be said to promise either positive improvement or an arrest of the degenerative process. In most of the cases in which an improvement of vision has been noted it proved to be merely temporary; and the same may be said of the apparent retardation of the degenerative process.

4. In cases of injury to the optic nerve, galvanism has not proved of the slightest permanent value.

5. In traumatic anæsthesia of the optic nerve and retina, uncomplicated by any laceration of nerve tissue or rupture of nerve fibers, galvanism carefully and persistently applied has been known to produce a rapid and permanent improvement of vision, when applied directly to the closed lids, and the current passed through the eyeball.

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**Foreign Medical Practitioners in Turkey.**—According to the "British Medical Journal," "it is announced that a regulation has been issued requiring all foreign medical practitioners practicing in Turkey to undergo an examination for a degree at the medical school in Constantinople. All the ambassadors have refused, it is said, to sanction the rule, with the single exception of Sir William White. That British physicians alone should have to undergo the ordeal of examination, whatever it may be, necessary to obtain a Turkish diploma, seems rather invidious."

**Diagnosis of Pericarditis.**—"M. Puis, of Vienna (cited in 'La France médicale,' No. 27), has drawn attention to the presence in pericarditis (with effusion?) of a limited strip of dullness posteriorly extending from two fingers' breadth above the angle of the scapula to two fingers' breadth below the inferior border of the lung, and limited by the spinal column on the right. Bronchial breathing, bronchophony, and increased vocal vibration occur over this area. But when the patient is in the prone or knee-elbow position, the dullness is replaced by a tympanitic note, the bronchial breathing disappears, and friction becomes audible."—*Lancet.*

THE
NEW YORK MEDICAL JOURNAL,
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## ORTHOPÆDIC SURGERY IN ENGLAND AND THE UNITED STATES.

About thirty-five years ago, when orthopædic surgery in the United States was in somewhat the same state of inertia as it seems to be in now in England, Dr. H. G. Davis, then of New York, demonstrated the value of traction in the treatment of chronic joint disease. Soon after, if not contemporaneously, several surgeons in New York, men of unquestioned ability, whose reputations to-day are world-wide, began to devote themselves to the treatment of chronic joint affections. These men, among whom may be mentioned Dr. Lewis A. Sayre and Dr. Charles Fayette Taylor, contributed largely to form a school of American orthopædic surgery, the distinctive feature of which was the portative traction idea of Davis. Although the pathology of joint disease was not then fully understood, the relief afforded by traction apparatus properly applied and the benefit conferred by the almost unrestricted out-door life permitted by its use, was apparent to those who investigated the subject intelligently. And now, as the result of the efforts of the eminent men above named and of those who have followed them, orthopædic surgery is a fully recognized specialty in the United States, and there are many men of ability engaged in promoting its interests and in extending its usefulness.

In several of the leading medical colleges of the country—the University of Pennsylvania, Bellevue Hospital Medical College, and the University of the City of New York, not to mention several others—there is a chair of orthopædic surgery. The American Orthopædic Association, composed of thirty active members living in different parts of the United States, has been duly admitted to membership in the Congress of American Physicians and Surgeons. In New York there are many orthopædic clinics, especially in two of its colleges and in the schools for practitioners; two large orthopædic hospitals where thousands of patients are treated annually; one large general hospital with a distinct orthopædic service; several hospitals which have orthopædic consultants; two large hospitals which have orthopædic dispensaries; and an exceedingly active orthopædic society. In Boston, Philadelphia, and other places also orthopædic surgery is recognized and appreciated.

On the other hand, orthopædic surgery in England has apparently made but little progress during the period named. There are no college professorships of orthopædic surgery; there are no national or local associations devoted to this special branch of surgery; and, while there are orthopædic institutions in London and elsewhere, under the care of eminent surgeons whose names are familiar to all students of surgical literature, the mechanical treatment of joint disease is sadly neglected. The general surgeon still holds almost unopposed sway, and chronic joint disease is not considered worthy of special orthopædic care.

When the general surgeon of England needs mechanical assistance in the conduct of a case of joint disease he is apt to call in an instrument-maker, whose imperfect knowledge of the mechanical needs of the patient is not always supplemented by an extended experience on the part of the surgical adviser. Not only is this true, to a great extent, of general orthopædic measures, but the portative traction treatment is not appreciated in England, and the skill, experience, and patience required to use the traction apparatus successfully have not been sufficiently cultivated by either the surgeon or the mechanician. The consequence is that English surgeons find themselves unequipped for the proper mechanical management of chronic joint disease, and as between the uneducated aid of the conventional instrument-maker, and their own unwillingness or inability to meet the indications from a mechanical standpoint, there is, at least, a tacit confession of failure.

Under these circumstances, and while the surgeons of the English orthopædic institutions, who had the opportunity of developing the mechanical therapeutics of chronic articular disease, allowed the opportunity to pass or preferred to follow the beaten paths of their predecessors, Mr. Thomas, of Liverpool, promulgated a mechanical treatment of chronic joint disease which resembled very much that advocated by the late Dr. Hutchison, of Brooklyn. Dr. Hutchison's method may be briefly described, and, as a matter of illustration, the hip apparatus will be selected for description. In order to protect the diseased hip joint, a patten three or four inches high is placed under the sound limb and is secured to the foot, the patient using axillary crutches for the purpose of locomotion. The diseased member thus becomes a pendent limb—very like the arm. This simple expedient constituted the sole protection of the diseased joint. It seems almost useless to say that the method never became popular with the orthopædic surgeons of the United States.

Mr. Thomas's apparatus consists of the same general arrangement, as above described, with the addition of a posterior splint (a bar of steel bent to fit the outline of the body and extending from the thorax to the lower end of the thigh bone) on the diseased side. At its upper end this steel bar is attached to the thorax by bands and straps; at its lower end it is secured to the thigh by a strap. As in the Hutchison method, locomotion is performed by the aid of axillary crutches, a high patten being placed under the sound limb.

Mr. Thomas contends that his apparatus absolutely immobilizes the hip joint. It exerts no traction whatever; on the contrary, as it is fitted only for "fixation," on the lever principle, it must be apparent that this posterior hip splint makes a fulcrum of the inflamed articular surfaces. Hence, if the attempt is made to "fix" the joint by this method, there must be an increase of the articular pressure, which is just the thing to be avoided in the treatment of chronic arthritis. But we have never seen, either in England or in this country, a Thomas splint for the hip that produced anything approximating true immobilization of the joint, and we doubt if the apparatus can be made to secure it.

The American method makes direct traction upon the diseased joint a fundamental principle of treatment. The apparatus is so adjusted to the distal part of the joint that the ever-present reflex muscular spasm that accompanies chronic (osteitic) joint inflammation is directly antagonized, and, instead of increasing the pressure of the diseased joint surfaces upon each other by using the lever principle of Thomas, a pulling force is substituted that directly modifies, if it does not wholly remove, this pressure. This apparatus, with its rigid pelvic band, its straight lateral traction rod, and its perineal pads, with or without the thoracic attachment, affords a complete perineal crutch upon which the patient walks without axillary crutches, in the open air, unless for surgical or exceptional pathological reasons recumbency may be necessary for a brief period. In the mean time the peculiar and efficient relief afforded by the traction not only adds to the comfort of the patient, relieving the pain, preventing suppuration, etc., but aids, more than any other means now known, in promoting final recovery without deformity and frequently with an entire restoration of mobility and function.

A few months ago, at the request of the medical board of a hospital in New York, one of our orthopædic surgeons gave in writing his opinions upon certain questions that had been propounded to him by the board. In the course of his remarks he pointed out what he deemed to be the defects of the Thomas splint in the treatment of chronic joint disease, and stated his reasons for approving of the traction method. An abstract of his remarks, with statements on other matters pertaining to the questions under consideration, was made the subject of a report, and the paper was printed by the hospital authorities. A copy of the report seems to have reached Mr. Thomas, and to have led him to attack the American method and its upholders. His pamphlet, "An Argument with the Censor at St. Luke's Hospital, New York," has been widely distributed in New York, both among the profession and among the laity.

It appears that Mr. Thomas thinks he has discovered a certain and a very ready means of diagnosticating hip-joint disease, and he even declines to place any value upon the published results of the work of others, because he infers that his "flexion test" in the diagnosis of hip disease was not used by the reporters in the cases which form the basis of an extensive analysis of the results obtained by a certain method of treatment.

It will be of service to quote Mr. Thomas's own words in describing this "flexion-test" method of diagnosis, of which he says in the pamphlet referred to: "As soon as American surgeons master the detail of the simple flexion test . . . the American method of treating hip-joint affections will be relegated to the history of by-gone surgery."

In the third edition of his "Diseases of the Hip, Knee, and Ankle Joints," on page 17, Mr. Thomas says: "Plate 3 illustrates the manipulation in this diagnostic method. Having undressed the patient and laid him on his back upon a table or other hard plane surface, the surgeon takes the sound limb and flexes it, so that the knee joint is in contact with the chest. Thus he makes certain that the spine and back of the pelvis are lying flat on the table; an assistant maintains the sound limb in this flexed position; the patient is then urged to extend, as far as he is able, the diseased limb, and this he will be able to do in a degree varying with the previous duration of the affection. While the patient is retained in this position, the operator will be able to make out a rigid cord corresponding to the origin of the adductors, which are invariably the first to shorten."

It is no wonder that Mr. Thomas is able to cure "hip disease" by his own or indeed by any other form of apparatus, if he relies upon this as his guide in the diagnosis of hip-joint disease. We think that Mr. Thomas may learn, from further study of the writings of those who are familiar with the clinical aspects of hip-joint disease and affections that mimic it, and especially the intricate subject of diagnosis, that the diagnosis is attended with great difficulty in many instances, and that there are many conditions other than hip disease and those named by Mr. Thomas in the chapter from which the foregoing quotation is made that will produce flexion of the thigh under the conditions named in the description of his "flexion test."

As to the Thomas apparatus and mode of treatment, and the statements made for them, there is no commentary so fitting as Mr. Thomas's confessed inability to make any report upon his cases or upon the results he has obtained. He appears to disregard the pathology of the disease, and to treat it only as a mechanician. He sees the deformity rather than the disease which produces it. He seems to think that when he has removed the deformity he has gone a long way toward curing the disease—or, at any rate, that the deformity is something which must be corrected at once, without regard to the injury that may be inflicted upon the diseased articulation by the lever action of his apparatus.

Mr. Thomas's comments upon the statistics of the surgeon whom he principally attacks in his pamphlet are neither fair nor just. We feel at liberty to speak with emphasis on this point, because the paper referred to, "The Ultimate Results of the Mechanical Treatment of Hip-joint Disease, an Analysis of Fifty-one Cases occurring in the Service of the New York Orthopædic Dispensary and Hospital," impressed us at the time of its publication as being a scientific essay of importance, and after it was published we called attention to its merits and value. Mr. Thomas probably overlooked the exacting conditions under which this essay was prepared, and for that reason we may be pardoned for mentioning them here. The exclusive conditions under which the report above referred to was made were as follows: 1. No case was to be considered in which the patient had not been under the care of the institution from the time of its entry until its final discharge. 2. No case was to be considered in which the patient had not been finally reported upon as "discharged cured" after a final examination. 3. No case was to to be considered in which the patient had not been "discharged cured" at least *four years* prior to the investigation. 4. No case was to be considered except those of patients who had presented unmistakable signs of the disease at the time of the first examination. 5. None were to be considered which had not been at least *two years* under treatment. 6. None were to be considered in which the patient had not been seen or examined after the investigation was begun. 7. *All cases* coming within these exclusive conditions were to be classified and reported upon.

It seems unnecessary to make any comment upon these conditions. The effort was an honest one and represented years of labor. Whether the results reported are satisfactory to Mr. Thomas or not, it is safe to say that a far more rigid diagnostic test than that depended on by him was adopted—otherwise there might have been a larger number of "cures."

### ELECTRICITY IN THERAPEUTICS.

The discussion that took place on the value of electricity as a therapeutic agent, at a meeting of the New York Academy of Medicine held on the 21st of March, brought out the views of a number of well-known men. The ground covered was far from including all even of the chief applications of electricity in medicine, but it was extensive enough to show a remarkable diversity of opinion, ranging almost from absolute "therapeutic nihilism" up to a degree of trustfulness hardly exceeded by the laity. About the same difference of opinion is probably to be found among the profession at large. There are those who rival the advertising "medical electrician" in the display that they make of electrical treatment, whether from genuine enthusiasm or as a means of impressing the multitude; and there are others who have "tried electricity" more or less blindly and will have no more of it. There are some who will not be satisfied till they have dived into the lowest depths of electrophysics, and there are still a few, we fear, who are content to go on applying what they indiscriminately term "galvanism" without regard to details that they look upon as frivolous and vexatious. With some modification, these extreme ideas, or lack of ideas, will doubtless continue to be held until the time comes when medical education draws near to perfection and when we have learned to make electrical appliances behave better than they are wont to behave at present. Touching this last point, it is not unlikely that storage batteries will soon come into general use in medicine, and that physicians will thus be enabled to confine their attention more closely to pure electro-therapeutics, and be no longer distracted with the mulishness of the ordinary medical battery. The costliness of an adequate electrical outfit and the care and special knowledge needed to keep it in good working order are probably at the bottom of the diversity with which men estimate the value of electricity as a therapeutic agent.

However one may have been led into doubt by his own mistakes or by his bad fortune in the matter of apparatus, it is almost inconceivable that anybody should fail to recognize the possibilities of therapeutic action in an agent of such unmistakable potency as electricity, whether for good or for evil. If we were acquainted with no other example of the action of electricity on the animal organism than its power to destroy life instantaneously, we should still be naturally inclined to the supposition that, properly curbed and modified, it might be made remedial. But there are facts equally obvious and quite as striking that lead directly to a belief in its curative power. Whoever, for example, has seen a little pocket faradization machine start the breathing of an asphyxiated new-born babe will not listen to the pessimism that calls up cases of death from blundering electrization of the heart as an offset. Little less can any man's confidence in the therapeutic usefulness of electricity be undermined if he has seen the same little machine stop a post-partum hæmorrhage that had proved rebellious to all other safe measures known; if he has seen galvanism followed by faradization not only bring back the lost plumpness of paralyzed muscles, but also—even if he can not say how—lead the patient along the only road that ends in regeneration of the diseased spinal cord; if he has seen the cautery wire bury itself bloodlessly in parts that he would not have dared attack with a knife; or even if he has seen faradization give comfort in a few minutes to a person suffering with muscular rheumatism. There ought to be no doubt entertained of the great therapeutic value of electricity; what is wanted is more precise knowledge as to when and how to use it. That knowledge must be obtained by experimental work guided by correct notions of physiology and pathology.

## *MINOR PARAGRAPHS.*

### THE BACILLUS OF TUBERCULOSIS.

Dr. George M. Sternberg recently delivered a lecture in the Hoagland Course, at Brooklyn, which presents in compact shape our latest knowledge concerning the bacillus of tubercle. The discovery that tuberculosis was contagious, he said, was made in 1868, and was demonstrated to the satisfaction of the scientific world in 1874, but the agent of infection was not discovered till 1882, when Koch demonstrated conclusively that it was a bacillus. Koch first demonstrated by an original method that the bacillus existed, but other experimenters who followed his methods could not produce such good results. Erich, using an aqueous solution of aniline and a solution of fuchsine, improved considerably on the facility with which the bacillus could be demonstrated. Some microscopists had maintained that the so-called tubercular bacillus consisted really of chains of micrococci. Koch not only showed in his first demonstration that the bacillus was present in all tuberculous material, but also succeeded in cultivating it in solidified blood serum. The speaker was, perhaps, the first one in this country to attempt to cultivate the tubercle bacillus. He prepared blood serum according to Koch's directions and introduced upon its surface a fragment of a lymphatic gland of a rabbit which had previously been inoculated with tuberculous sputum. His first experiment was not successful, owing to the fact that the tuberculous material was not properly broken up, as directed. Koch's demonstrations had been entirely successful, and not to admit now that tuberculosis was infectious would argue an unfamiliarity with the evidence. The growth on blood serum began after the lapse of fourteen days. Koch cultivated the bacillus from forty-three separate sources, and the cultivations that had been maintained since that date were as virulent to-day as at first. Koch had also shown that the inhalation of his cultivated tubercle bacillus in vaporized form produced tuberculosis. The statement had been made by a German investigator that ultramarine blue and pulverized glass produced tuberculosis, but in experiments which the speaker had conducted, at which the investigator in question had been present, he had demonstrated that this was not the case. The particles of glass were simply encysted and the animals presented no evidence of tuberculosis. The dried sputum might be kept for a long time if maintained at a low temperature. The virulence of tuberculous sputum was destroyed by putrefaction and also by a boiling temperature. If suspended in water, the tubercle bacillus would retain its vitality for over a hundred days.

### THE SYMS OPERATING THEATRE.

It is reported that the Roosevelt Hospital is likely to receive by bequest from the estate of the late Mr. William J. Syms the large sum of $350,000 for building and maintaining a new operating theatre. It is said that the building, together, we presume, with its equipment, is to cost $250,000, and that the remainder of the legacy is to be invested, and the income applied to the maintenance of the theatre. This is truly a superb endowment, and we are glad that it is to pertain to so well managed an institution as the Roosevelt Hospital. With this enormous sum of money at their command, the trustees of the fund, who are not likely to waste anything in mere adornment, may be expected to build an operating theatre in which no essential or even desirable feature will be lacking, and one that will be not only a notable addition to New York's resources in surgical teaching, but also, owing to the proximity of the two institutions, of special benefit to the students of the College of Physicians and Surgeons.

### A MEDICAL EDITOR'S MISFORTUNE.

Dr. R. C. Word, the editor of the "Southern Medical Record," of Atlanta, Georgia, is reported to have suffered grievously by the burning of his home and all its contents. He loses his scientific papers, his lecture notes, and the manuscript of a book nearly ready for publication, none of which can be replaced. This peculiarly hard fate will be best appreciated by Dr. Word's brethren, the medical editors of the country at large. He has our sincere sympathy.

### HOMŒOPATHY IN AUSTRIA.

According to the "British Medical Journal," official statistics show that there are only 118 homœopathists in Austria out of the whole number of medical men, 7,183, and that only 44 of those profess to practice homœopathy exclusively. There are none at all in the Italian districts, and but 19 in Vienna. They are said, too, to be decreasing in number.

### THE ST. LOUIS POST-GRADUATE SCHOOL OF MEDICINE.

The activity of this school for practitioners is shown by the fact that a monthly journal, the "St. Louis Polyclinic," has been started in connection with it, *i. e.*, is edited by Dr. L. A. Turnbull in conjunction with the faculty. The first number of the "Polyclinic," for April, contains a well-arranged table of contents, and the matter itself is of interest and well presented.

### THE CINCINNATI HOSPITAL.

The twenty-eighth annual report of this hospital, for the year 1888, gives abundant proof of its character as a progressive institution. A training school for nurses was opened during the year, and the growth of the library and of the pathological museum was quite decided. It is gratifying to see that three of the seven members of the board of trustees are medical men.

### A NEW GERMAN MEDICAL JOURNAL IN NEW YORK.

There are many German practitioners in this country whose acquaintance with the English language is still imperfect, and it is not strange that they should feel the want of accounts in their own tongue of what is going on in American medicine. There are several creditable German medical and pharmaceutical journals published here. The youngest of them is the "Medicinische Monatsschrift," edited by Dr. A. Seibert and published in New York. With the April number it reached the fourth monthly issue of its first volume. Its communicated articles, society reports, and abstracts are of a high order, and its editorial articles are very readable. The editor makes a spirited answer to a recent criticism of the course pursued by the German Hospital in seeking to import a house officer from Germany.

### FALSE ECONOMY IN LONDON.

The London "Spectator" comments very properly upon the penny-wise economy displayed by the new County Council of the English metropolis in the matter of fixing upon the amount of annual salary to be paid to the medical officer of health. The sanitary committee had recommended that it should be fixed at £1,250, but it was cut down to £1,000, and the attempt was made to reduce it to half that sum, one of the advocates of the latter proposal making the remark that he had never in his life seen a man whose services were worth more than £500 a year. As the "Spectator" justly says, the Council seemed wholly unaware that an incompetent sanitary adviser might cost them thousands a year in wasted precautions, while a man of high ability might enable them to diminish not only the death-rate but the sick-rate of London, and thus save millions annually to the population.

### THE NEW YORK COLLEGE OF PHARMACY.

The newspapers have lately spoken of an alleged state of discord in the governing body of the college, growing out of race antipathy. It is said that the American members object to the tendency shown to make the methods of teaching conform to German practices. Our impression is that whatever antagonism may really exist is not at all commensurate with the accounts given in the newspapers. There is doubtless a certain degree of emulation between the American and German gentlemen in the board, but that is wholesome so long as it is not allowed to degenerate into so-called politics. Pharmacy is certainly well taught in Germany, and we do not see why evil should be apprehended from the application of like teaching in New York. But it is suggested that the contention may reach beyond the field of what concerns the ordinary functions of the college and affect the course pursued by its representatives in the approaching revision of the pharmacopœia. The pharmacopœia of 1880 is said to have been "Germanized," and thereby damaged, and the fear seems to be entertained that further "Germanization" will be carried out in the new edition if the Germans get full control of the college. In this direction, too, we see little to apprehend, for, whether it was "Germanized" or not, the pharmacopœia of 1880 was immensely superior to any of its predecessors in all respects save one—that of placing the names of preparations in continuous alphabetical order with those of the drugs. This backward step ought to be retraced in

1890, and we hope that the influence of the College of Pharmacy will not be inimical to such a change.

## ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 23, 1889:

| DISEASES. | Week ending Apr. 16. | | Week ending Apr. 23. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 10 | 2 | 11 | 3 |
| Scarlet fever | 478 | 54 | 446 | 47 |
| Cerebro-spinal meningitis | 1 | 1 | 4 | 3 |
| Measles | 184 | 19 | 164 | 11 |
| Diphtheria | 197 | 56 | 198 | 54 |

**Bellevue Hospital.**—The Townsend Chapel, on the hospital grounds, was dedicated on the 22d inst.

**A Prize for Cleanliness.**—It is announced that Mr. John G. Borden, a winter resident of Florida, has offered a prize of $1,000 to the city within that State that shall be found in the most cleanly condition on the 1st of July.

**The Sanitary Institute of Great Britain** will hold its next annual convention at Worcester in the latter part of September.

**Dr. Elliot Coues,** of Washington, purposes making a tour through England, France, Egypt, and India in the interest of the American Theosophical Society, of which he is the president. It is announced that he will soon give a lecture in New York on the subject of modern miracles.

**An International Congress of Otology and Laryngology** will be held in Paris, in the palace of the Trocadéro, from the 16th to the 21st of September. Gentlemen who wish to read papers before the congress should send the titles to the secretary of the committee of organization, Dr. Loewenberg, No. 15 rue Auber, Paris, before the 15th of July. The subscription is twenty francs.

**The Medical Microscopical Society of Brooklyn.**—At the next meeting, on Wednesday evening, May 1st, at the Hoagland Laboratory, Dr. Weeks will read a paper on "The Microscopical Appearances of the Tissues of the Eye in Glaucoma," and Dr. Kemp will read a paper on "The Histology of the Coagulation of the Blood."

**The Hornellsville (N. Y.) Medical and Surgical Association** is a newly incorporated body which has adopted the code of ethics of the American Medical Association. Dr. J. S. Jameson has been chosen president and Dr. C. G. Hubbard secretary. Its meetings are held on the first Monday of each month.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 14 to April 20, 1889:*

Smith, H. K., Lieutenant-Colonel and Surgeon, U. S. Army, reports address of New Army Building as at No. 39 Whitehall Street, N. Y. City, April 18, 1889.

Williams, John W., Major and Surgeon, U. S. Army, died at Jackson Barracks, Louisiana, April 15th, at 5.06 p. m.

Happersett, John C. G., Major and Surgeon, U. S. Army, is relieved from duty at Willett's Point, N. Y., and ordered to report to the commanding officer, Atlanta Barracks, Georgia, for duty as Post Surgeon at that post. By Par. 12, S. O. 88, A. G. O., April 16, 1889.

Ewen, Clarence, Major and Surgeon, U. S. Army, promoted Surgeon, U. S. Army, with rank of Major, to take effect April 15, 1889.

Woodruff, Charles E., First Lieutenant and Assistant Surgeon, U. S. Army, is relieved from duty at Fort Mackinac, Michigan, and ordered to Fort Gaston, California, for duty. Par. 14, S. O. 86, A. G. O., April 13, 1889.

Leave of absence granted in S. O. 44, February 21, 1889, A. G. O., to Lieutenant-Colonel James C. McKee, is extended seven days. Par. 11, S. O. 86, A. G. O., April 13, 1889.

Polhemus, Adrian S., Captain and Assistant Surgeon, U. S. Army, is relieved from duty at Fort Gaston, California; ordered to Fort Monroe, Virginia, for duty. Par. 14, S. O. 86, A. G. O., April 13, 1889.

Appel, Aaron H., Captain and Assistant Surgeon, U. S. Army, is granted leave of absence for twenty-one days. Par. 1, S. O. 38, Headquarters Division of the Missouri, April 16, 1889.

Under authority from the Secretary of War, conveyed by letter of the 16th ultimo from Division Headquarters, the post of Fort Sisseton, Dakota, will be discontinued June 1, 1889. S. O. 35, Headquarters Department of Dakota, St. Paul, Minn., April 8, 1889.

**Society Meetings for the Coming Week:**

Tuesday, *April 30th:* Tennessee State Medical Society (Nashville); Boston Society of Medical Sciences (private).

Wednesday, *May 1st:* Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Society of the County of Richmond (Stapleton), N. Y.; Essex, Mass., North District (annual—Haverhill), and Plymouth, Mass., District Medical Societies; Penobscot, Me., County Medical Society (Bangor); Bridgeport, Conn., Medical Association.

Thursday, *May 2d:* United States Naval Medical Society (Washington); National Association of Railway Surgeons (first day—St. Louis); New York Academy of Medicine; Society of Physicians of the Village of Canandaigua, N. Y.; Medical Society of the County of Orleans (semi-annual—Albion), N. Y.; Ocean, N. J., County Medical Society (Tom's River); Boston Medico-psychological Association; Obstetrical Society of Philadelphia.

Friday, *May 3d:* National Association of Railway Surgeons (second day); Practitioners' Society of New York (private); Baltimore Clinical Society.

Saturday, *May 4th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

## Letters to the Editor.

### THE GERMICIDAL TREATMENT OF CONSUMPTION.

Brooklyn, *March 26, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: Inasmuch as so many unsuccessful efforts have been made to discover a medicament or method of treatment that will destroy tubercle bacilli in the lungs of the phthisical, without damage to the patient, I am impelled to suggest that it might be more rational for us to transfer our efforts to the broader field of attempting the total annihilation of the germ as it exists in nature, for, as it seems to me, were it possible for any given medical man to devise a way or a means for the total destruction of the bacilli in any given consumptive's lungs, the germs would soon be replaced in his tissues from the atmosphere, which, we may feel certain, contains them in great numbers in the form of floating dust. It will be remembered that Miguel found 55,000 germs, embracing many varieties, in ten cubic metres of the air of the *rue de Rivoli*, Paris. Recent attempts to destroy tubercle bacilli in the lungs of the phthisical by the respiration of air carried to a high temperature, as suggested by Weigert, inspire this communication. We can not lose sight of the fact that a temperature considerably less than 300° F. is sufficient to coagulate the albuminoid elements of animal tissues, if brought to bear for only a few minutes. The high degree of humidity of the residual, reserve, and expiratory tidal volumes of air serves to protect the lungs and air-passages (and also the bacilli) from abnormal grades of temperature. The familiar illustration of plunging a wet hand into a vessel of molten metal exemplifies this. Many tubercle bacilli are found, when present in phthisical lungs, deeply imbedded in the tissues, and these tissues must be invulnerable to the influences brought to bear for the destruction of the germ; if otherwise, the result is obvious.

In conclusion, I wish to put on record the statement that no germicide will be found that will be able to destroy tubercle bacilli in the lungs without damage to the patient, and, further, that if this contention is ever shown to be wrong, our ability to destroy the parasite under such circumstances will be of no advantage to the phthisical. G. A. Evans.

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## THE TREATMENT OF SCARLATINA.

47 East Sixtieth Street, *April 23, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: My special interest in modern hydrotherapeutics prompts me to ask your readers' attention to a very promising treatment of scarlet fever, especially of those severe types which are now so prevalent and so fatal in this city.

I will not take up your valuable space with my own views on this subject, but simply indorse what has been said by Professor von Ziemssen in one of those classical clinical lectures which he has recently published and which stamp him as the Trousseau of to-day. After reviewing the various types of scarlatina and dwelling upon the fact that Sydenham regarded it as a very tractable disease, and that Bretonneau had never lost a case in twenty-four years and yet met with a very fatal epidemic a year later, and referring to the fact that the success of treatment depended much upon the character of the epidemic, he says there is certainly a treatment that in individual cases may yield extraordinarily good results and save lives that might otherwise be lost. "But, of course, much care and labor for physicians and nurses are connected therewith."

"Let us begin with the treatment of the fever and the other general manifestations of infection. We possess no remedy to limit the development of the disease germs or to paralyze the action of their poisonous products. Hence the most prominent indication remains for us to maintain if possible the capacity of resistance of the organic cells and to spur on the energy of the innervation. In the first line stands here hydrotherapeutics, preferably in the form of cool or lukewarm baths and affusions. Currie, the founder of scientific hydrotherapeutics of the infectious diseases, had already laid down the indications in scarlatina with precision. My method, says he, if I am called early to the patient, is to have him undressed and to pour from four to five gallons of water as cold as it can be had over him. This results in the usual cooling effects, but they are not so enduring as in typhus. Two or three hours later the heat is not rarely as great as it was before. The cold bath must, therefore, be repeated as often as the obstinacy of the heat demands; occasionally it is necessary to use it ten or twelve times in twenty-four hours. After these the intensity of the fever is broken and tepid affusions at longer intervals are now quite sufficient to overcome the disease. During this time cold water and lemonade must be the drink, and the bowels must, if necessary, be emptied by calomel. Noticeable lassitude and weakness with a desire to sleep and rest follow this rapid inhibition of the fever, and occasionally to such a degree that one becomes alarmed lest coma or a considerable reduction of the vital powers be impending; but I discovered that such fears were unfounded. It was always sufficient to facilitate the warming of the surface, especially of the extremities, by proper covering, and then to leave the patient to that deep rest by which Nature is in the habit of refreshing itself after intense excitement. . . . But if the anxiety of the parents or the timidity of other physicians ties our hands and this decisive method can not be used, we may resort to the lukewarm bath with noticeable but yet milder effects. Only in mild cases will this abort the disease, but it will render them less intense, because it lessens the heat and causes perspiration.

"As he informs us, Currie had an opportunity, after using his method three years, to test it in the great and malignant epidemic which ravaged Liverpool in 1801. He treated over one hundred and fifty children, among these his own, and he was himself surprised by the favorable results. Currie expressly insists that the cold affusion is contra-indicated by an adynamic condition of the patient, and that, under these circumstances, lukewarm and even warm baths should be resorted to.

"It is scarcely necessary (says v. Ziemssen) to add anything to the experience of this excellent observer. The correctness of his observations and deductions has only been confirmed by the numerous English physicians who treated scarlatina after his method during the malignant epidemics of the beginning of the present century.

"The most recent time also has again proved the high value of hydrotherapeutics in scarlatina. That the energy of the water treatment must be graded by the physician for each individual case is evident; the earlier the patient comes under treatment, the higher the temperature and more resisting the organism, the lower should be the temperature of the bath and affusion. On the other hand, in the advanced stages—*i. e.*, on the third or fourth day—and in the adynamic types, only lukewarm or even warm baths should be used, and the energy of the innervation should be stimulated by the previous use of excitants, especially wine. You will do well to refrain entirely from affusions in such asthenic cases, and only to resort to the full baths, and the latter cautiously as a gradually cooler bath, as I have directed in the treatment of typhoid fever. If you place a patient with a temperature of 41° C. in a bath of 35° C., and cool this down a few degrees by adding cold water, you are enabled, after the first bath, to judge from the reaction of the system whether you may advance to a more decided cooling down or not.

"As I have already emphasized in the therapeutics of typhoid fever, the effect is not limited to the cooling of the blood, but, far more, the thermic stimulus causes a refreshing of the central innervation, and, corresponding to the latter, a stimulation of the functions of the vital organs.

"The value of antipyretic remedies, especially of acetanilide and antipyrine, is not to be underestimated, but they can not approach even distantly the effect of hydrotherapeutics, because just here the chief effect of the thermic excitation, the refreshing of the nervous system, is absent." ("Klinische Vorträge," von Professor D. H. v. Ziemssen, vierzehnter Vortrag, Verlag von Vogel, 1888, pp. 33–35.)

As I have expressed the same views in regard to typhoid fever, with the hope of urging the profession to their adoption, that are contained in the last sentence quoted, I will not add aught to this valuable practical advice, but urge its adoption in the severe forms of scarlatina prevailing at present.

Simon Baruch.

## Proceedings of Societies.

### NEW YORK ACADEMY OF MEDICINE.

*Meeting of March 21, 1889.*

The President, Dr. Alfred L. Loomis, in the Chair.

*Discussion on the Place of Electricity in Therapeutics.*

**The Physical and Physiological Action of Electricity.**—Dr. M. A. Starr read a paper with this title in which he also considered the therapeutic value of that agent. He first referred to ideas held in times not very far past according to which electricity was a substance or an entity of a fluid-like nature which flowed in a so-called current, and affected the tissues in a way more or less analogous to the action of a drug. It was now well known that electricity was a form of vibratory activity imparted to the molecules composing a body which at two points was in contact with poles whose electrical condition was opposite. It was known that the condition of the molecules between the two poles varied according to the distance of any one molecule from one or the other pole, but the nature of the difference between the positive and the negative pole was in itself not known, except that these poles represented two different forms of electrical state.

The speaker then defined and compared static, galvanic, and induced or faradaic electricity, and showed that all were forms of the same force, only differing in the mode and conditions of their production. Static electricity had this peculiarity, that the change of electrical state was limited to the surface of the body charged. He thought it strange that it had so long held a place in the minds of physicians (to say nothing of the popular ideas concerning it), as if it had some peculiar and mysterious power. Any effects derived from it must be due to stimulation of the surface of the body and the peripheral cutaneous nerves. It was possible that certain reflex effects in deeper parts might in this way be brought about.

Another matter in this connection he would speak of with which a popular fallacy was bound up. The state on the surface of a body so charged was communicated to the adjoining air or to the hair of the head, and these, being in the same state of electrification, were repelled. The air so charged constantly moved away from the body, and this produced what had been called the electrical breeze; and in no possible way could it differ from air put in motion in any other way, or have any therapeutic action. To sum up what there was to say about the therapeutical value of static electricity, it was the equivalent of any other mild form of counter-irritation, such as switching the surface of the body with bundles of fine twigs, massage, the needle bath, or the faradaic brush, etc. It could have no inherent or peculiar curative effects, unless through an action of the mind or from pure expectation.

Galvanic electricity had a much more definite and far-reaching effect, but he thought few who had used it extensively would be likely to say that it could be compared with such a drug as opium in certainty of action. We recognized clinically three varieties in the effects obtainable, called catalytic, cataphoric, and electrotonic. The catalytic effect of a galvanic current was a state in which separate molecules were caused to fly apart from each other. It was therefore a disintegrating force and produced chemical changes in compound bodies. The two poles being applied to points on the tongue, a sour taste would be noticed at one pole and a salt taste at the other. It had a limited number of uses in medicine, such as removing hairs from the face, and perhaps in causing the absorption of tumors, but there had hardly been time, as yet, to form a definite judgment as to its advisability in the latter employment. In urethral strictures all the best authorities now condemned its use. Its results were less satisfactory than those of most surgical operations; it was apt to produce ulcers which healed slowly, and gave much pain. When a milder current was used, certain effects in the way of increasing the chemical changes in the body were obtained which were an aid to nutrition, and actual growth could be induced in muscular fiber. In a case of diphtheritic multiple neuritis, reported by Professor Macher, of Yale, in which both arms were paralyzed, the galvanic current, applied to either arm successively for a week at a time, had produced hypertrophy of its muscles and increased its size and strength. Faradism had produced no change, and massage had been followed by actual loss.

He had never seen any good effects obtained from galvanism in organic diseases of the brain and spinal cord. Sometimes the patient would improve and then grow worse; sometimes he would not improve at all. In all forms of insanity it was useless. In diseases of the cord it was usually recommended, and was often applied. He had never known a spinal disease associated with degenerative changes of tissue in which the least permanent benefit had been obtained. In destructive inflammatory diseases it could not reduce the congestion even temporarily, and hence was contra-indicated. In the period of convalescence it was often used, but he doubted if with any actual benefit. In spastic rigidity or in locomotor ataxia galvanism had not, in his experience, given good results. Its analgesic effects were often not obtainable; on the whole, he had been disappointed in trials that he had made of its power to relieve pain. The speaker ended this branch of his subject by quoting the opinions of Gowers and Strümpell, according to whom little could be said in favor of the employment of galvanism in central nervous diseases. In the local treatment of paralyzed muscles he approved of its use.

We had no definite knowledge of the extent to which changes could be induced in the deep viscera of the body, since we had no means of proving how much of a current passed through them. Muscles conducted electricity easily, bones less easily, and nervous structures very badly. The current was not uniformly diffused through the body as the diagrams in textbooks would lead one to suppose.

Applied to the periphery, galvanism did unquestionably increase the circulation and the chemical changes going on in a part, and here had a certain value. However, in many cases of lead palsy, facial paralysis, and neuralgia in which he had employed it, the results had been decidedly disappointing. In these local applications he had found Dr. Gibney's rule a good one—that the strength of the current must be increased until there was a distinct sensation in the peripheral distribution of the nerve to which the application was being made.

The cataphoric action of galvanism by which the absorption of substances in solution through the unbroken skin could be increased had a certain value, especially in the use of cocaine and aconitine, in producing local anæsthesia and relieving neuralgic pains in nerves superficially placed. The objection to medicated baths was that the amount of the drug absorbed could not be accurately determined.

Lastly, he would speak of the electrotonic effects of electricity. When a current was thrown into a part or tissue the molecular change at the moment was of an intense sort, and also when the circuit was broken. When the poles were reversed a still more active state of electrical activity was set up. The excitation so produced might be very useful in appropriate cases to promote nutrition and activity. Faradism, a weak interrupted galvanic current increased in intensity by magnetic induction, had no advantages over galvanic alternation for this purpose. The apparatus was more portable. The effects obtained were purely tonic; an irritation of superficial parts was also produced which in a reflex way had an effect on deeper parts and excited functional activity. Such use of electricity was partly empirical and partly physiological.

After using electricity according to the most approved rules and with the best apparatus during a period of ten years on a large number and variety of patients, he must frankly say that he was disappointed with the results which he had obtained as a whole. He had selected his cases, used the most approved methods of application, and measured the strength of his currents with the utmost care.

**The Value of Electro-therapeutics in Lesions of the Optic Nerve.**—Dr. C. S. Bull read a paper with this title. (See page 457.)

**The Effects of Electricity in Spinal and Cord Diseases.**—Dr. L. C. Gray read a paper with this title. (To be published.) He first remarked that he could not agree with Dr. Starr as to there being no certain or definite effects to be had from electricity. He believed that certain affections came under its influence as certainly as we were accustomed to see any other conditions yield to the action of opium or quinine. Among these he would mention neuralgia, neuritis in either extremities or trunk, neurasthenia, and certain mental symptoms occurring in organic mental diseases. Palliation at least could be looked for. He thought a lack of success in the use of electricity in dispensary practice spoken of by Dr. Starr might have been due to lack of delicacy in the apparatus used, and especially to the currents not being measured, or graduated in strength to suit individual cases. He only spoke from a knowledge of what the application of electricity in dispensaries usually was.

Dr. W. R. Birdsall said that he had been asked to speak on the use of electricity in organic diseases of the spinal cord. Dr. Starr had just given a doleful picture of what its value was here, but he thought it was not more so than might be given of the benefit to be derived from any other method of treatment. These difficulties were incurable and we must not expect much aid from any direction. He had seen patients that recovered, and he had seen others in whom the condition was decidedly alleviated. In accomplishing the latter result he had known electricity to do more than any other remedy tried by relieving the painful spasms, the effects of paralysis, and the trophic disturbances. As to reaching the organic state which determined all these symptoms, we must remember that nothing else in the way of a remedy did so, but that electricity aided in this direction.

In the acute inflammatory affections of the cord electricity was not of use, and was perhaps of positive harm. He believed its most valuable effects were obtained in cases where there was a need of some stimulating agent to excite action in living tissues. In relieving pain, both anode and cathode were of equal value. What was called the peripolar state, or that existing in the neighboring tissues, was exactly opposite to that of the pole applied, and so the effect of either was the same. The condition present, moreover, at the moment the cathode or anode was taken away, was just the opposite of the state which afterward persisted. He believed a large share of the effects obtained by electricity were reflex in their origin. Because static electricity only excited nerves in the periphery was no reason for its having no deep effects. On the other hand, it was well known that contraction of muscles and distant nervous effects could be obtained from static electricity. A galvanic current of twenty milliampères sent through the arm from the hand to the middle of the back would cause flashes of light before the eyes, showing that the current was widely diffused. Electricity seemed to be useful in various functional diseases, partly by its mental effects.

**Electricity in Functional Nervous Diseases.**—Dr. A. D. Rockwell read a paper with this title. (See page 430.)

**Electricity in Functional Nervous Affections.**—Dr. E. D. Fisher read a paper with this title. He defined a functional nervous affection as an abnormal action of the nervous system manifested by symptoms which had no physiological explanation, and were accompanied by no anatomical changes. We had to assume that there was a molecular change or some fine disturbance of nutrition in the nerves of a part sufficient to alter its functional activities and yet not recognizable by our present methods of investigation. This view was sustained clinically by the fact that many of the so-called functional affections were temporary and evanescent. They might become chronic—that is, habitual—but even then they might after years of continuance entirely disappear, as was seen in idiopathic epilepsy, neurasthenia, hysteria, melancholia, etc.

When we considered the function of the nervous system, with its cells and conducting fibers, in controlling the growth and nutrition of every part of the body, it would seem probable that a constant and natural nerve current existed, or, as Foster termed it, "a molecular disturbance traveling along a nerve fiber in the form of a wave." In electricity we had a force which acted upon nerve fibers and muscles, arousing or increasing their physiological action by some alteration of this "molecular disturbance." When this force was applied directly to the nerve in its peripheral distribution or in its course in the cord and brain, either a stimulant or a depressive effect resulted, one or the other resulting according to the condition of the nerve or the strength and direction of the current. As compared with other parts of the body, the nervous system was composed of elements particularly well adapted to the conduction of the electrical current. The sympathetic system was responsive to the electrical current, and therein we possessed a means of controlling the circulation and nutrition. We knew that at the point of diffusion of the galvanic current hyperæmia of the part was induced by a dilatation of its blood-vessels. This must lead to a change in the nutrition of the part affected. He believed that much could be accomplished in functional affections in this way.

To establish the true place and value of electricity as a therapeutic agent he preferred to turn to the records of careful and qualified observers. In the hands of Munk, Stein, Charcot, and especially Benedikt, the static current had been found to give excellent results in many of the so-called functional diseases, such as cerebral and spinal neurasthenia, spinal irritation, chorea, epilepsy, cephalalgia, neuralgia, etc. The irritant or stimulant effects of the faradaic current were useful as such, but they were not confined to the parts to which the applications were directly made. Rumpf had found that faradization of the skin produced hyperæmia of the hemisphere of the brain opposite to the side of the body to which the application of the current was made, while faradization of the abdominal walls caused abdominal plethora and cerebral anæmia. Statements as to the clinical effects of general faradization or the use of the faradaic brush thus received confirmation when we considered their physiological action. It was, however, in galvanism that we found the greatest remedial agent in the class of diseases just mentioned. Here chemical and electrolytic effects gave added power in controlling bodily processes. Experiments had shown that it could be made to affect the circulation (and consequently the nutrition) of the cerebro-spinal system.

On the whole, physiological, borne out by clinical, data would seem to sustain the title of electricity to a high place in the therapeutics of functional nervous diseases.

Dr. M. **Putnam Jacobi** said that exact statistics as to the success of the Apostoli method in the treatment of uterine fibromata might have an interesting bearing on the discussion. They were rather difficult to find, considering the widespread reputation of the method.

Carlet's thesis, which embodied Apostoli's only detailed report, contained accounts of ninety-four cases. In five of these the tumors had been very large, rising nearly to the xiphoid cartilage, and had been treated partly by galvano-puncture. In one of these treatment had not lasted long, and no result had been reached; in four of them, after from a month to a year of treatment, the relief obtained had been very considerable, at least as regarded symptoms, and the tumor in one case had diminished three fingers' breadths, but much less in the three others. Eighty-nine cases had been treated exclusively by intra-uterine cauterization with both positive and negative poles. In two of these pregnancy had been unrecognized and abortion had resulted, in one the condition had proved to be subinvolution following confinement, and in one incipient cancer.

Four cases of subperitoneal fibroid had been treated; in the first of these relief had been obtained after a month and the length of the uterine cavity had been reduced from 13 to 12 centimetres. In the second the tumor had risen above the umbilicus. Single cauterizations had been followed by an abscess which had been opened through the abdominal wall, but also by some diminution in the size of the tumor. In the third the tumor had reached nearly to the xiphoid cartilage and the cavity of the uterus had measured 21 centimetres. Fifty-two cauterizations, given during a year and a half, had been followed by entire relief of symptoms and reduction of the cavity to 12 centimetres. In the fourth the tumor had risen above the umbilicus. The symptoms of the patient had been entirely relieved, but without diminution in the size of the tumor.

In four cases of interstitial fibroid, treatment of short duration had given negative results in three, but in the fourth the length of the uterine cavity had been reduced from 14 to 12½ centimetres.

The seventy-seven remaining cases afforded, from their description, no adequate proof of the existence of a tumor. The descriptions given—often most summary—corresponded rather to a chronic metritis. The depth of the uterine cavity had varied from 6½ to 9½ centimetres. In forty-seven of these cases entire relief of symptoms and some reduction in the depth of the uterine cavity had been obtained. In thirty cases the results of treatment, usually of short duration, had been negative, but in several instances a pre-existing perimetritis had been seriously aggravated by the intra-uterine cauterizations.

The net result of these first statistics went to show that the Apostoli method was very valuable in the treatment of chronic metritis, or for the relief of the symptoms caused by small fibroids. It seemed in a few cases to have occasioned a certain diminution in the size of large tumors; but beyond this Apostoli himself had published no positive results. Dr. Keith, of London, spoke enthusiastically of the method, but gave no statistics, only stating that he had made twelve hundred applications to one hundred patients, a proportion to each patient which was scarcely large enough to judge of the value of the method by. Engelmann, of St. Louis, in an elaborate paper on the theory of the method, did not give the history of a single case. Martin, of Chicago, had stated that he had seen tumors from the size of an apple to that of a cocoa-nut disappear under treatment, but gave no details. Everett, in the "N. Y. Medical Journal" for April 18, 1885, had given a list of seventeen cases of undoubted tumors treated by the intra-uterine method. In three of these, polypoid tumors had been extruded after external faradization of the abdomen. In two cases submucous fibroids had been said to be cured after intra-uterine faradization lasting in one case nearly four weeks and in the other three months. In three cases pedunculated tumors had come down to the os externum under the influence of faradization and had then been removed. In six cases galvano-puncture had been employed. In two of these patients recovery had afterward been obtained by laparotomy and excision, in one by the extrusion of an interstitial fibroid into the uterine cavity, in two life had been terminated by cancer, and in two by tuberculosis; finally, in one there had been a dangerous collapse, but the patient had recovered and shrinking of the tumor had followed.

Freeman, using Cutter's method of galvano-puncture through the vagina and abdomen simultaneously, had met with four deaths in a series of fifty cases, and had reported three successful cases. Webb, an enthusiastic observer in Apostoli's clinic, had related the history of three remarkable cases of subperitoneal fibroids. The first had filled the abdomen up to the sternum; after three galvano-punctures and thirty-eight intra-uterine negative cauterizations during a period of eighteen months, the upper border of the tumor had come only to within a hand's breadth of the sternum. In the second case the tumor had risen two inches above the umbilicus. Fifteen galvano-punctures during a period of eleven months had caused it to fall to a point two inches below the umbilicus. In the third case metrorrhagia had entirely ceased after the fourth puncture. Dr. W. H. Baker had been quoted by Dr. Buckmaster as having said that in one case he had seen a tumor entirely disappear after treatment by galvano-puncture, and in twelve cases shrink to from a third to a half of its former size. Dr. Massey, in his recent volume on the use of electricity in pelvic diseases, had reported two cases of his own in which subperitoneal fibroids had been reduced to two thirds of their original size with full relief of symptoms, one case in which a submucous mural fibroid was extruded after thirty-eight galvano-chemical cauterizations, one case in which a small submucous fibroid was cured after thirteen applications, and four cases in which intramural fibroids had been much reduced in size. He quoted Holland as having caused sloughing and complete enucleation of a tumor reaching to the umbilicus, after nine cauterizations given during one month.

Dr. G. W. **Jacoby** thought the sum of all we know about electricity very little, either in itself or its applications in medicine. It had been recommended in every disease imaginable, even in tuberculosis, with the idea that this was a disease of the sympathetic system. When different opinions were given by high authorities as to the value of an agent, what were men of less experience to think?

Dr. W. G. **Thompson** thought highly of the stimulating effects of the faradaic current, both on the circulation and on the nutrition of muscles. He could speak well of its use in removing opacity of the cornea, exudations into the tissues, and some of the symptoms of chronic muscular rheumatism.

Dr. **Starr** expressed his satisfaction with the extent to which he had drawn out the actual views of men present. He only wished to contrast them with the unhesitating statements made in many of the text-books, or rather most of the text-books, as to what could regularly be accomplished by electricity. Patients were still coming to New York from long distances for electrical treatment, as if it were something which might and probably would succeed where everything else had failed.

Gowers had been the first writer of authority on nervous diseases to say that he was disappointed in electricity.

In regard to our lack of knowledge concerning the effects of the anode and cathode, alluded to by Dr. Gray, and the physical difference between them, he had this to say: If we knew of no physiological differences observable in their effects, the only conclusion to be drawn was that these effects were very uncertain, or else that our knowledge was very incomplete.

With regard to Dr. Gray's statement that electricity was of use in cases of hemiplegia without contractures, it was enough to say that persons with these forms of hemiplegia always recovered. If there were no contractures, then evidence was wanting of the presence of any descending degeneration, and hence of any organic disease. Diphtheritic paralysis was well known to end in recovery spontaneously; hence, while electricity would preserve the nutrition or motility of the part while paralyzed, it could make no difference as to the outcome of the disease.

With the statement of Dr. Fisher, that the nerves conducted easily and that the sympathetic nervous system could readily be brought under the influence of electricity, he could not agree. The nervous structures were known to resist the passage of a current more than the muscles, or the vessels, or the bones, and the central nervous organs, being surrounded by fluid, were thereby specially insulated. As to passing a galvanic current through the sympathetic, he seriously doubted its possibility. It was certainly very difficult to excite the cervical ganglia, judging by the fact that it took very strong currents to produce changes in the size of the pupil.

He took exception to the statement of Dr. Rockwell that the faradaic current acted on the intramuscular nerves, and hence failed to produce a contraction in a muscle whose nerves were degenerated. It failed to do so because the alternative electrotonic state produced by that current was formed too rapidly to affect the low tension and slow contractility of a muscle whose nerves were degenerated. If a single faradaic shock was given, the muscle would contract in just such cases, since force enough was present to respond to a single application of a stimulus, although not present if the stimulus was repeated too frequently. It was in this way that galvanic and faradaic currents were really alike; at least they did not affect different parts of a muscle.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN NEUROLOGY.

*Meeting of March 8, 1889.*

Dr. L. C. Gray in the Chair.

**Muscular Deformities of Nervous Origin and their Treatment.**—Dr. V. P. Gibney read a paper with this title. He included among muscular deformities those due to changes in the tendons. They might be peripheral or central in origin. Among peripheral nervous diseases giving rise to deformities he included neuritis and neuralgia, and among central diseases any affection, either primary or secondary, affecting the brain and spinal cord. Taking up the deformities due to peripheral nerve lesions, the speaker first discussed torticollis. There was considerable doubt in the case of this affection whether we had to deal with hyperkinesis or akinesis. Congenital torticollis was usually not dependent on a nervous lesion, and manifestly it was not so where it was the result of a hæmatoma of the sterno-mastoid. The most frequent cause of wryneck was rheumatism depending on a cold. Though here usually self-limited, it might become permanent, and structural shortening of the muscles take place. Here, after constitutional treatment had failed, forcible correction under an anæsthetic should be made, or myotomy done, and an appliance adjusted. He had usually relied upon the head spring called the jury-mast, supplemented by constitutional remedies, and had seen the most obstinate cases yield within a few months. Still, in a certain number of cases the ætiology remained obscure, rheumatism, malaria, Pott's disease, and hysteria all having been excluded. Here myotomy had given prompt relief. In the treatment of hysterical torticollis the orthopædic surgeon found quite as many difficulties to encounter as the general practitioner did. He would admit that he had no specific treatment.

The deformities of the shoulder due to paralysis of the circumflex nerve he had once supposed amenable to electrical treatment, but much light had been thrown on the cause and means of cure of this condition by Harrison in the "Lancet" for February 16, 1889, who had shown that the circumflex nerve in passing through the quadrilateral space was by that circumstance rendered liable to injury, and even strangulation, such as could not occur in the case of any other nerve. Either irritation and hyperæsthesia, or complete interruption of the nerve current and paralysis, might result. As a means of restoring the normal positions of the teretes muscles and the long head of the triceps and freeing the nerve from constrictions caused by inflammatory products matted together, this writer had, in a series of six cases, practiced passive circumduction of the limb, with marked immediate relief, which had become permanent after a few repetitions of these manipulations.

In drop-wrist, Thompson, of Liverpool, had found it of advantage to add to medical treatment a mechanical appliance which fixed the hand in a position of the greatest possible superextension, thus giving absolute rest to the paralyzed muscles. Fractures at the elbow and wrist were not uncommonly followed by neuritis and consequent deformities in the hand and fingers. Time largely must here be relied on for cure. The hot douche, active motion, and massage were the best agents we had to aid in recovery.

The suture of nerves divided at the wrist gave brilliant results when skillfully done. The questions as to the nervous origin of rotary lateral curvature of the spine he would not speak on decisively before so many neurologists, but would pass on to the deformities of the lower extremities, many of which that were known as distinctly neurotic were treated by orthopædic surgeons.

Many reflex paralyses and contractures producing deformities and disability in these parts could be cured by blistering the spine; many others could be traced to irritation in distant parts. An excellent illustration of troubles that were due to irritation at a remote point had been sent him by a surgeon in Belfast, Ireland. A little girl of ten years had had a persistent cough, so that spurious pertussis had been diagnosticated. There had been no elevation of temperature. The cough had continued for two weeks, when a fire had broken out in her bedroom, frightening her badly and causing the cough to disappear. Its place had been taken within a few hours by pain in her right hip joint, shooting pains throughout the distribution of the anterior crural nerve, and painful reflex spasm when adduction and abduction were attempted. The pain had increased for four or five days, when the temperature had risen to 102° F.; an abundant herpetic eruption on the thigh, knee, and leg had broken out, and much tenderness had appeared over the fourth lumbar vertebra. The eruption had continued for fourteen days, and with the temperature had as suddenly disappeared, leaving, however, the thigh wasted, pain on extreme extension, and pain over the trochanter and the crest of the ilium. This had appeared to some to indicate a neurosis of the hip, and to others an osteitis of the hip. However, the limping in the walk had nearly disappeared in six months, though weakness had persisted in the joint for nearly a year. Finally, the mystery had been solved by the discovery of a piece of needle in the right foot, and complete relief had followed its extraction.

Reflex disturbances were especially to be looked for from affections of the ear, nose, eye, and genitals; also from those of the intestinal tract. The numerous contributions to literature by men working in these special fields had simplified therapeutics and increased the accuracy of diagnosis in these disorders of reflex origin. It was now difficult to deal charitably with a surgeon who put a splint on a muscular deformity depending on a neurosis. The management of such deformities must largely consist in the management of the neuritis.

Taking up muscular deformities depending on central lesions, the speaker remarked that they were generally amenable to simple methods of treatment, but that this did not restore the function of the limb. The question of cutting or stretching tendons was an open and disputed one. From his own observation, he saw no reason to condemn the practice of cutting; correction of the deformity was certainly obtained.

Among meta-hemiplegic disturbances he would mention drop-wrist and drop-foot. In the case of the first the only means of relief he knew of was the mechanical support of the hand, since its weight alone was enough to cause the paralyzed muscles to let the wrist fall into its characteristic deformity.

For spastic contraction of the lower extremities he relied on subcutaneous division of the adductors of the thigh, the flexors of the leg, and the extensors of the foot, with confinement of the limb in an overcorrected position for many weeks, and instructions for associated movements at home. The ætiology of the affection was to be studied, of course, so that any discoverable factors in the causation of the spasm could be eliminated. The results from this method of treatment had, on the whole, been satisfactory to the parents of the children in whose cases it had been employed. He made no effort to secure the management of such cases.

The muscular deformities most difficult to treat arose from diseases in the spinal cord. He treated the deformities arising from compression myelitis consecutive to Pott's disease by fixation, prolonged rest, prolonged administration of iodide of potassium in large doses, and, in the older patients, by the use of the Paquelin cautery lightly applied along the spine. He used no electrical treatment whatever. Dr. Weir Mitchell had lately revived an old method used by his father, which consisted of daily suspension, lasting from a few minutes to several hours.

In England the plan of cutting down on the cord at the point of compression and removing the thickening of the membranes which caused it was being tried. So far as his observation went, tension obtained by pulleys was as efficient as that obtained by suspension. Poliomyelitis resulted in luxation, subluxation, curvatures of the spine, flexion at the different joints of the lower extremities, and talipes equino-varus and calcaneus. When the muscles at the shoulder joint were paralyzed, a deformity resulted which, according to his experience, no appliance could correct. The deformity resulting from shortening of the thigh flexors and of the tendo Achillis he had best succeeded in treating by myotomy and tenotomy. The excision of paralytic joints had been practiced, but he had no experience to offer in this direction. His reliance had been, in cases where the paralysis of the limb had been quite extensive, on appliances designed to make a peg-leg of the limb. For adult patients a jointed apparatus, which locked as the patient stood, was very serviceable.

Dr. A. B. Judson remarked that many cases of deformity owed their origin to absence of innervation in muscles, the latter being chiefly due to anterior poliomyelitis. Club-foot was one of the deformities acquired mainly in this way. Talipes calcaneus was a form of club-foot of nervous origin which was of exceptional interest. Here atrophy of the muscles of the calf prevented the patient from keeping the foot at right angles to the leg, or from rising on tip-toe. He had operated scarcely at all for the relief of this condition, but had got very good results in other ways. A simple brace which prevented the flexion of the foot on the leg removed the irregularity of the step, and gave stability to the foot and ankle. The pressure and friction which ordinarily fell on the ball of the great toe and the anterior part of the foot were transmitted by this brace to the upper part of the anterior surface of the leg, near the tubercle of the tibia, where, if the brace performed its functions, a callus would be formed.

Another condition equally amenable to mechanical treatment was caused by paralysis of the quadriceps extensor of the thigh. It might conveniently be called inability of the knee. A patient thus affected could stand on the paralyzed limb (in a case of moderate severity), with the other foot raised from the ground; but the slightest blow in the popliteal region would send him to the floor, unless he quickly used the other limb to prevent this. If he sat on a table with the legs hanging, he could not extend the knee. In walking, the lower part of the thigh was grasped by the hand at every step, to prevent flexion and consequent collapse of the limb. If a very simple brace was adjusted to the limb during childhood, so as to give the limb stiffness, serious results might be averted. Otherwise, as with years the weight of the body increased, the limb would come to be less and less used in locomotion, crutches would be adopted, and contraction of the ham-strings would follow. In just such cases as these he had known artificial limbs to be adjusted to a stump formed by fastening the leg in extreme flexion on the thigh. Amputation had often been performed under similar circumstances, to rid the patient of a deformed and useless limb.

Mechanical treatment of such conditions was palliative only, and yet extremely necessary. The muscular inability to control the joint resulted in the patient's having essentially a defective skeleton, and the surgeon sought to re-enforce it by adding an artificial one, and so getting the necessary rigidity. The brace, then, resembled in a way the skeleton of the lobster and crab in that it inclosed the muscles. Our mechanics, however, had the great disadvantage of bringing the bony skeleton and the artificial one of steel together, with the sensitive and vulnerable skin interposed. Still, with care and time and experiment and more or less ingenuity, the problem could, as a rule, be satisfactorily solved. Much assistance and encouragement came from the fact that the patients were children, with the element of growth in their favor. If a threatened limb could be kept in good shape by mechanical means from the age of six to that of sixteen years, the ten years of growth would be in the right direction, and tend to result in ability and symmetry.

Believing that the function of the specialist was to strengthen the hands of the general practitioner, he wished to say, in behalf of his co-laborers in orthopædic practice, that many patients who were sent directly to the instrument-maker should be sent to the orthopædic surgeon, for an opinion at least. There were many cases in which the former could supply all that was required, but there were also many in which the aid of the most skilled and educated eye and hand should be called in.

Dr. John Ridlon remarked that in the paraplegia of Pott's disease he used rest, fixation, iodides, and the Paquelin cautery, but he could not satisfy himself that the iodides really contributed much to recovery. Rest of the spinal cord alone did as much good as any of the other measures used, and probably most of the good. In regard to the effects of the Paquelin cautery, he would say that they were often valuable, if at the same time the patient could lie still long enough. To the latter element in the treatment, indeed, he attached all importance. In some cases he would enjoin rest for even so long a period as five years.

Dr. H. L. Taylor agreed with previous speakers that the deformities of the feet and legs resulting from infantile paralysis could always be prevented by proper mechanical protection to the limb. After the occurrence of distortions they could nearly always be removed or greatly relieved by mechanical means, and, if not excessive, in perhaps a few weeks. Protective and retentive apparatus would still be needed, just as after operative interference. In nearly all these cases, even the severer ones, the patients could be put upon their feet by the aid of proper support, and enabled to walk very fairly or even well without crutches. This could always be done if there was power of extension at the knee, and sometimes where this power was absent.

The vascular paresis present in these withered limbs, resulting in poorly nourished and cold extremities, was favorably affected by restoring the limbs to their natural use, and also by thrusting them daily for ten or twenty minutes into a box the air in which was heated to a temperature of 120° or 130° F.

The brace used should in winter be worn between two pairs of woolen stockings; very cold legs could sometimes be kept warm in this way. When the indications and limitations in these cases were appreciated their orthopædic treatment was very satisfactory.

Dr. Samuel Ketch remarked that of late years everybody who had been associated with orthopædic institutions saw many cases of muscular deformities of nervous origin. As a rule, these cases were sent at a very late stage of the disease which caused the deformity, and many of them at a time when an apparatus was the only resource left, the erroneous idea being a common one, in the minds of both the profession and the laity, that a child could always be made to walk with the help of "a brace."

Of the peripheral paralyses, torticollis was the most frequent one presented to the orthopædic surgeon. Without discussing some interesting points in its ætiology and diagnosis, he would state that very good results had been obtained in its treatment by the use of Taylor's chin piece as modified by Shaffer, where the ball-and-socket arrangement allowed of the placing and retaining of the head in any position desired, and was especially efficacious after operative measures.

Of all the deformities of muscular origin which presented, the largest number of cases were of club-foot following anterior poliomyelitis. Here, not as in the congenital cases (whose ætiology was still somewhat obscure and, contrary to what was usually taught in the text-books, which were not of paralytic origin), we had to deal with a paralysis, partial or complete, the direct result of the spinal lesion. The deformity in these cases was caused by purely mechanical laws, as shown by Volkmann. In the treatment of these cases it would seem wise to try to secure proper warmth and improved nutrition of the limb, and at the same time to attempt the removal of the deformity. For the latter purpose no fixed plan, either operative or mechanical, was to be adhered to, but means must be selected to suit individual cases. Exercise of the part was very important, and, in the speaker's judgment, this could best be accomplished by means of Shaffer's shoe. Here the action was an intermittent one, and, while tending to the removal of the deformity, also distinctly improved the nutrition of the muscles. The prolonged use of electricity was of great value, as shown in a case verbally reported by Dr. Sayre, where repeated applications of a current which caused contractions which were hardly perceptible and quickly disappeared brought about a permanent improvement. Hypodermatic injections of strychnine were also of service at times.

He had been glad to hear Dr. Gibney speak of his attempts toward the relief of that distressing class of cases which resulted from spastic paralysis; he would have liked to hear more specifically the results of tenotomy and reposition. Rupprecht, of Dresden, had reported marked improvement in his cases treated by these means, not only in the deformity, but in the mental states of his patients. These results had not as yet been verified in the speaker's own experience.

With regard to the treatment of the paraplegia of Pott's disease, he could agree with Dr. Ridlon that iodide of potassium did not shorten its duration. Absolute rest was, in his opinion, of most value in this condition. It was of especial importance that, where possible, the patient should have head support during this time. He differed with Dr. Judson in regard to the moderation of the opinion expressed by him that there were some cases the treatment of which could be left to an instrument maker. In his own opinion, no case could be well treated by any one but by him whose education had specially fitted him for this purpose.

Dr. Ingraham asked how soon in the course of the disease it was well to call in the orthopædist, and also what appliance Dr. Gibney used in Charcot's joint disease.

Dr. Field asked if contraction of the prepuce was to be regarded as a cause of any of the deformities under consideration. A case had been referred to him in which neglect to treat a phimosis had apparently been the cause of a deformity of the limbs.

Dr. J. F. Terriberry thought a brace should be applied as soon as a child became old enough to begin learning to walk. The orthopædist could very often assist the neurologist, and *vice versa.* The two should be more intimately associated than they were.

Dr. E. D. Fisher thought that mechanical appliances had far better chances of giving lasting aid in deformities resulting from poliomyelitis than in those due to spastic hemiplegia, where the cerebral irritation usually went on for years. He had seen several cases in which the latter disorder had been present where braces had temporarily relieved the deformity, but recurrence had been noticed in a short time. He thought well of Dr. Weir Mitchell's recent method of treatment. He had patients under his care whose condition had greatly improved after daily suspension had been practiced for a few months. A case presenting a somewhat curious deformity had recently been brought to him. A girl ten years of age had both arms drawn forcibly backward by a persistent contraction of the muscles determining that movement. He had concluded that the case was not a critical one when during a revival meeting complete relief of the condition had resulted from religious emotion, and had lasted a month, but had been followed by a recurrence shortly after her being engaged in a quarrel.

The Chairman said that in any case of muscular deformity it was a question of great importance to determine the cause, as well as to determine whether the contracture was not compensatory. In some cases that he had seen, removal of the contracture by massage and rest had made a limb that had been partially useful perfectly useless, because the mechanical support of the contracture had been removed. Where the deformity resulted from an incurable lesion of the brain or the spinal cord, appearances of disability could be removed, but no essential good was obtained. In undertaking the treatment of a case of deformity due to progressive muscular atrophy, it should always be borne in mind that progressive muscular atrophy occurred in three forms, in one of which the lesion was central, in another of which it was due to disease in the peripheral nerve, and in the third of which it was only and entirely due to disease in the muscular fiber itself or in the motor end plate upon the muscle. When it was possible to distinguish the latter two forms, mechanical treatment might hold out more chance of relief than where the cause was central.

A question of gravity often arose as to when the brace should be applied. Thus, in a case of hemiplegia recently under his care, a cure had been effected by the use of the faradaic current after a sickness of a year, and when the patient could not rise from bed, Dr. Gibney having meanwhile been applied to by the parents for a set of braces. He thought that where an operation for phimosis cured deformities in the extremities, this result was due largely to the shock and the effects of the ether on a more or less hysterical condition. But when poliomyelitis resulted in a deformity of the arm, great care was to be exercised in the giving of ether, as the respiratory center was here very apt to become paralyzed; in two instances he had seen children come near dying on the table.

Dr. Gibney, replying to Dr. Ingraham, said that in locomotor ataxia with deformities—in Charcot's disease or tabetic joints—he had not seen cases early enough to try the effects of preventive treatment, but he should suppose that apparatus would only assist patients so affected to get about for a time; the disease would not be in any way controlled.

In reply to Dr. Field, he said that he had not met with any cases of monoplegia or monospasm resulting from phimosis, but had seen general paretic disturbances and contractions in children relieved by circumcision. Such instances, however, he believed, were rare.

## Book Notices.

*Experimental Surgery.* By Nicholas Senn, M. D., Ph. D., Attending Surgeon, Milwaukee Hospital; Professor of the Principles of Surgery and Surgical Pathology in Rush Medical College, Chicago. Chicago: W. T. Keener, 1889. Pp. xii–522. [Price, $5.]

Dr. Senn has here published in book form a number of papers which have appeared from time to time in medical periodicals, so that this work is already familiar to surgeons. The author's many experiments enable him to speak with authority, and his ingenious methods of performing enterorrhaphy and enterostomy entitle him to a high position among abdominal surgeons. But it seems somewhat unfortunate that he should mar his otherwise perfect work by his recommendation that a "wound of the stomach or intestine should be sought for in some such way as a plumber locates a leak in a gas pipe." This reminds one of the remark made by the gentleman afflicted with prostatic hypertrophy to the effect that "he would be much more comfortable if his doctor were only a better plumber." Dr. Senn advocates inflation of the intestine *per anum* with hydrogen in cases of penetrating wounds of the abdomen, in order that this gas may by its escape through the abdominal wound reveal the existence of a visceral perforation. The gas must be ignited in order to prove that it is really hydrogen which is escaping, and, as he naively adds, this is a most efficient means of rendering the wound aseptic! But how as to the peritoneal cavity? This must be distended with gas which has been forced through the rectum and colon, the cavities of which organs can hardly be instanced as types of sterilized localities, and it is not quite correct to use the expression "saved as by fire" in its literal sense when relating the successful result of a laparotomy for perforating wounds of the intestine. Grave objections to such procedures are so apparent that further comment is unnecessary. With this single exception, we have nothing but the highest praise to offer, and our congratulations to both the author and his readers are hearty as we lay down the book.

*Intestinal Surgery.* By N. Senn, M. D., Ph. D., Attending Surgeon, Milwaukee Hospital; Professor of Principles of Surgery and Surgical Pathology, Rush Medical College, Chicago, Ill. Chicago: W. T. Keener, 1889. Pp. vii–269. [Price, $2.50.]

This book consists of three papers which were published separately last year. The first, on the "Surgical Treatment of Intestinal Obstruction," was read before the Congress of American Physicians and Surgeons at Washington; the second, "An Experimental Contribution to Intestinal Surgery, with Special Reference to the Treatment of Intestinal Obstruction," appeared in the "Annals of Surgery"; and the third, "Rectal Insufflation of Hydrogen Gas, an Infallible Test in the Diagnosis of Visceral Injury of the Gastro-intestinal Canal in Penetrating Wounds of the Abdomen," was read before the American Medical Association.

The first contains a *résumé* of the best literature on the surgical treatment of intestinal obstruction, together with some account of the author's experience, both clinical and experimental. The second is, as the title indicates, entirely experimental, and relates to artificial obstruction, enterectomy, enterorrhaphy, intestinal anastomosis, and the adhesion of serous surfaces. The third attracted an amount of attention when first published which was perhaps the greatest accorded any one paper last year, and met with such free and widespread discussion that further mention of it than we have already made is unnecessary.

All of Dr. Senn's work is original and valuable, whether all of his conclusions are correct or not. He is one of the pioneers in this branch of surgery, and his opinions are worthy of careful consideration by all who may ever be called upon to perform operations on the intestines.

*Surgical Bacteriology.* By Nicholas Senn, M. D., Ph. D., Professor of Principles of Surgery and Surgical Pathology, Rush Medical College, Chicago, Ill. Philadelphia: Lea Brothers & Co., 1889. Pp. 17 to 270.

This work is a careful and concise *résumé* of the results obtained by bacteriologists in their investigations as to the microbic character of surgical diseases, giving in condensed form what is now known on this subject. It will prove a great boon to the practitioner who has neither the time nor the inclination to wade through the voluminous original literature, but who has a desire to gain some idea as to the demonstrated facts which support the theory. The work is a valuable book of reference, and is well deserving of wide distribution.

*A Manual of Instruction in the Principles of Prompt Aid to the Injured*, designed for Military and Civil Use. By Alvah H. Doty, M. D., Major and Surgeon, Ninth Regiment, N. G. S. N. Y.; Attending Surgeon to Bellevue Hospital Dispensary, New York. New York: D. Appleton & Co., 1889. Pp. xiii–224. [Price, $1.25.]

It is truly refreshing to meet with a treatise on a medical subject which, written mainly for the benefit of the laity, is at the same time accurate, concise, and practical. Dr. Doty has well accomplished a very difficult task—that of explaining the why and wherefore of the various measures to be adopted in the temporary care of the injured without the use of avoidable technical terms or mention of useless details. The chapter on bandaging is a most excellent one, and the descriptions of improvised dressings are clear and eminently useful. The book is also enhanced in utility by the incorporation of the "Manual of Transportation" of the United States army.

As to its shortcomings, it would be improved by a little more treatment of the negative side of the question, especially in the matter of the management of hæmorrhage, which is, perhaps, the most trying of all emergencies to the nerves of the layman. That is, a few "don'ts" in the discussion of the use of the various hæmostatic measures described would be more firmly fixed in the memory than any number of positive directions; as, for instance, the layman always remembers the fact that constriction of a limb will arrest hæmorrhage from any point below, but can not, as a rule, remember the fact that it should only be used when direct pressure on the bleeding point is impossible or insufficient.

One or two insignificant inaccuracies, such as "*perchloride* of iron (Monsel's solution)," are to be noted, but on the whole the work is most creditable to the author, and is by far the best of its kind we have as yet seen.

*Hand-book for the Hospital Corps of the United States Army and State Military Forces.* By Charles Smart, Major and Surgeon, United States Army. Approved by the Surgeon-General of the Army. New York: William Wood & Co. Pp. viii–577.

This book is the outcome of the necessity for "a higher intelligence and more extended knowledge on the part of the non-commissioned officers" of the medical corps of the army than have heretofore been required. Dr. Smart's duties in connection with the Surgeon-General's office have given him an opportunity to discover the deficiencies of this class of men, and in the volume before us they are fully and intelligently met. It will undoubtedly find much favor in the regular army, to the wants of the medical department of which it is especially adapted. The needs of the State military forces call, we think, for a less comprehensive volume, in which routine hospital work, such as is required in the regular army, monthly returns, meteorological reports, etc., are not included. The work is divided into three parts. Part I deals with the service of the post hospital, the ambulance drill, active service in the field, and general hospital service. Part II treats of elementary anatomy and physiology, including the anatomy of bones, joints, and muscles, the physiology of the circulation, alimentation, respiration, excretion and secretion, and the nervous system. This portion of the work prepares the reader for a clear understanding of Part III, which instructs him in the elements of first aid to and intelligent nursing of the injured, and in the supervision of hospital wards. In the portion of this section of the book which deals with hæmorrhage, cuts illustrating the method of checking hæmorrhage by digital compression of certain arteries would, we think, be of great assistance to the non-medical reader. Illustrations in the work are numerous and, in the main, fair, but the mechanical part of the book is not very creditable, particularly the binding, which gives evidence of haste or carelessness. The book has a green cover, bearing the hospital steward's chevron, and fastened with a clasp, and is of the same size as the works on tactics used in the army, to which it is intended to be a companion volume.

### BOOKS AND PAMPHLETS RECEIVED.

The Illustrated Optical Manual; or, Hand-book of Instructions for the Guidance of Surgeons in testing Quality and Range of Vision, and in distinguishing and dealing with Optical Defects in General. By Surgeon-General Sir T. Longmore, C. B., F. R. C. S., Honorary Surgeon to the Queen, etc. Fourth Edition. Enlarged and Illustrated by Seventy-four Figures from Drawings and Diagrams by Inspector-General Dr. Macdonald, R. N., F. R. S., etc. London and New York: Longmans, Green, & Co., 1888. Pp. xxii–239. [Price, $4.50.]

Lectures on Bright's Disease. By Robert Saundby, M. D. Edin., Fellow of the Royal College of Physicians, London, etc. With Fifty Illustrations. New York: E. B. Treat, 1889. Pp. vi–290.

Lehrbuch der praktischen Ohrenheilkunde. Von Dr. D. B. St. John Roosa, Professor der Ohren- und Augenheilkunde an der medicinischen Facultät der New Yorker Universität. Nach der 6. Auflage des Originals. Bearbeitet von Dr. Ludwig Weiss, in New York. Mit 77 Holzschnitten. Berlin: August Hirschwald, 1889. Pp. xii–396.

Électricité médicale. Éclairage et galvanocaustique. Par le Dr. J. Garel, Médecin des hôpitaux de Lyon. [Extrait du journal "La Province médicale."]

College Botany, including Organography, Vegetable Histology, Vegetable Physiology, and Vegetable Taxonomy, with a Brief Account of the Succession of Plants in Geologic Time, and a Glossary of Botanical Terms; being a Revised and Enlarged Edition of the "Elements of Botany." With nearly Six Hundred Illustrations, largely from Drawings by the Author. By Edson S. Bastin, A. M., F. R. M. S., Professor of Botany, Materia Medica, and Microscopy in the Chicago College of Pharmacy. Chicago: G. P. Engelhard & Company, 1889. Pp. 15–451. [Price, $3.]

Tenth Annual Report of the Trustees of the Binghamton Asylum for the Chronic Insane. For the Year 1888.

The Disorders of Menstruation. By Andrew F. Currier, M. D., of New York. [Reprinted from the "Medical News."]

On Diabetes and its Connection with Heart Disease. By Jacques Mayer, M. D. Blennorrhœa of the Sexual Organs and its Complications. Dr. Ernest Finger. [Wood's "Medical and Surgical Monographs."]

Seventy-fifth Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum, 1888.

A Text-book of Pathology, Systematic and Practical. By D. J. Hamilton, M. B., F. R. C. S. E., F. R. S. E., Professor of Pathological Anatomy, University of Aberdeen. Copiously Illustrated. Vol. I. London and New York: Macmillan & Co., 1889. Pp. xx–736.

Suggestions on the Treatment and Influence of Diet in the Management of Rheumatic Diseases. By Morris H. Henry, M. A., M. D., LL. D., of New York. [Reprinted from the "Dietetic Gazette."]

The Insanity of Oscar Hugo Webber. By James Hendric Lloyd, M. D., etc. Read before the Medical Jurisprudence Society of Philadelphia, November 13, 1888. [Reprinted from the "Proceedings of the Medical Jurisprudence Society of Philadelphia."]

Second Annual Report of the Training School for Nurses connected with the New York Post-graduate School and Hospital, May 31, 1888.

The Annual Report on the Health, Sanitary Condition, etc., of the Borough of Hastings. For the Year 1888. By C. Knox Shaw, L. R. C. P. Lond., etc.

Biniodide of Mercury. Its Antiseptic Use. By Eugene P. Bernardy, M. D. [Reprinted from the "Transactions of the Philadelphia County Medical Society."]

The Resuscitation of Asphyxiated New-born Infants by the Suspension Method. By Llewellyn Eliot, M. D., Washington, D. C. [Reprinted from the "Transactions of the American Association of Obstetricians and Gynæcologists."]

## Reports on the Progress of Medicine.

### GYNÆCOLOGY.

By ANDREW F. CURRIER, M. D.

**The Use of Certain Medicaments with or without Precedent Dilatation in the Treatment of Endometritis, Metritis, Fibromyomata, and Fluxions of the Uterus** (Jonin, "El Prog. Gin. y Ped.," March 25, 1888).

—After four years' experience the author feels warranted in recommending the intra-uterine use of pencils of iodoform, resorcin, opium, belladonna, and sulphate of quinine for the treatment of the affections mentioned in the title of his paper. These pencils are dissolved within the uterine canal, exert a topical influence in modifying the condition of the mucous membrane, provoke uterine contractions, and so influence the activity of the circulation and favor the absorption of exudates which may have infiltrated the tissues of the uterus.

Before the insertion of the pencils the uterus should be dilated with bougies, or with antiseptic laminaria tents. One great advantage of this treatment is the ready exit which is thereby afforded for the discharges of the uterus; in other words, good drainage is accomplished. The treatment is also to be recommended because it is unaccompanied with danger. This treatment was originated by Becquerel, though he introduced his applications only within the cervical canal. Fritsch's objections to the treatment are that the pencils will cause uterine contractions, and that they will be expelled before they have accomplished the desired result. Other writers insist that the pencil becomes covered with mucus, and that very little of the medicinal substance is absorbed. Such a statement may be true concerning nitrate of silver, but it is not concerning iodoform, which is readily diffused. The pencils may cause pain, however, and hence induce uterine contractions, but the advantages which are to be obtained more than compensate for the pain. In twenty-five cases of fibroid tumor in which this treatment was used there was decided improvement, which was probably due to the concomitant metritis. The treatment should be efficient in dysmenorrhœa. It is understood that it is to be associated with suitable general treatment.

**The Electrical Treatment of Hydrosalpinx** (Apostoli, *ibid.*).—The conclusions which the author has reached from the treatment of a case of hydrosalpinx by electricity and the study of others are as follows:

1. Fever and the inflammatory state are not an absolute contra-indication to the methodical and appropriate application of the galvanic current.

2. Non-suppurative inflammations of the annexa of the uterus may be advantageously treated by the faradaic current, which, though favorable in congestion and in the first stage of inflammation, is contra-indicated in confirmed suppuration. Those cases are excluded in which electrical cauterization may open a free passage for pus into the vagina.

3. Galvano-puncture is a valuable method for attaining two ends: 1st, the abortion of an initial phlegmasia, and the encouragement to disappearance of a progressing inflammatory process; 2d, the ready evacuation of collections of fluids.

4. Every inflammatory exudate which manifests itself at the *fornices vaginæ* should be treated by galvano-puncture, under suitable precautions.

5. This method will be useful in certain cases of salpingitis or hydrosalpinx, especially if it is likely to release attachments to the abdominal wall.

6. In all operations rigid antiseptic precautions must be observed as to patients and instruments.

7. Two galvano-punctures *per vaginam* with the negative pole into an acute hydrosalpinx will cause a rapid diminution in the intensity of the process, and produce a complete symptomatic cure.

**The Treatment of Elytritis and Blennorrhœal Endometritis** (Fritsch, *ibid.*).—The author makes a mixture containing equal parts of chloride of zinc and water. Twenty grammes of this mixture are combined with a litre of water. This is heated to a temperature of 30° R. and is used by irrigation in the treatment of blennorrhœal vaginitis and endometritis twice daily, being continued during the menstrual period. About ten irrigations are usually required. If the disease has extended to the cervical canal, the mucous membrane of the uterus, and the tubes, the discharge will soon recur. In such cases the uterine cavity should be cauterized with concentrated solutions of chloride of zinc, and a pencil of iodoform should be introduced at suitable intervals within the cavity.

Bandl's method of treatment is the following: The speculum having been introduced, a fenestrated cannula is passed within the cervical canal as far as the os internum; then a ten-per-cent. solution of sulphate of copper is passed within the cannula, the latter being rotated so that all portions of the mucous membrane shall receive the copper solution through the fenestra. After the cannula has remained in position a few minutes it is to be removed and a tampon introduced within the cervix. Such applications should be made every three or four days, irrigations of a very weak solution of sulphate of zinc being used during the intervals.

**Chronic Endometritis** (Cornil and Brault, *ibid.*, April 25, 1888).—Inflammation and hypertrophy of the mucous membrane of the body of the uterus are frequently seen as the result of frequent and severe parturitions, as accompaniments of ovaritis, salpingitis, peritonitis, and parametritis, and associated with fibroid or cancerous tumors. The statement that the lesion of endometritis consists in the conversion of the ciliated epithelium of the mucous membrane into pavement epithelium is erroneous. De Sinéty describes three varieties of vegetations which are to be found in this disease: 1, Glandular, which are developments of the hypertrophied glands; 2, embryonal, formed from embryonal tissue, and containing small vessels and traces of glands; 3, vascular, formed by dilated vessels and analogous to blood tumors. The modifications of the stroma of the mucous membrane have been well described by Schröder and Ruge. The authors of this paper made their investigations upon fresh uteri removed by Péan from living subjects, two cases being illustrations of simple metritis, three of fibroid tumors, and three of cancer of the cervix. These specimens enabled them to see not only the mucous membrane under conditions favorable for study, but also the entire wall of the uterus. The uterus being divided longitudinally, the mucous membrane was found of a grayish or reddish color, and in some cases of a bright-red color; it was usually smooth at the surface, sometimes corrugated, and could be easily scraped off with a scalpel. When scraped with a sharp spoon it was found difficult to distinguish and separate the mucous membrane from the uterine muscle. In most cases it was found that the inflammatory process did not amount to more than a hypertrophy of the glands. In endometritis following epithelioma of the cervix the inflammatory lesions are contiguous to the cancerous zone of the cervix. In metritis, which follows other inflammations of the genital apparatus, the lesions of the mucous membrane are not uniform. In those cases in which the surface has a fungous appearance there are eminences and depressions which constitute the condition variously known as endometritis villosa, or fungosa, or granulosa, or vegetans, and which has been described by Sinéty and Slavjanski. These vegetations represent, in some cases, true pedunculated tumors. Less frequently the papillomatous prolongations, or hypertrophic glandular development, contain small cysts which have the appearance of Nabothian follicles. The glandular ducts are usually lined with a single layer of cylindrical epithelial cells, the vibratile processes of which can only be seen in very fresh preparations. The lumen of these glandular processes is usually empty, but sometimes it is filled with epithelial or lymphatic cells in process of degeneration. The lesions of the superficial layer of the mucous membrane are more important than exist in those more deeply situated. The elements of this layer may become necrosed and disintegrated after having undergone a true maceration. The interglandular cellular tissue is normally present in very small quantity, but when inflamed its nuclei increase in size, many new cells appear in the interstices of the glandules, and the vessels increase in number and in size. There may be a general infiltration by lymphatic elements; ordinarily the glandules seem distributed in a stroma of young embryonal cellular tissue. Change in the stroma of the mucosa and new formation in the glands appear to be related phenomena. If we compare the changes, in the shape of glandular hypertrophy, which occur in chronic metritis with those which sometimes occur in the intestine, we find the mucous membrane of the latter above a delicate layer of smooth muscular tissue, but in no cases in which there is glandular hypertrophy of this mucous membrane is the muscular layer invaded except in cases of cancer. There is great difficulty in the anatomical diagnosis between glandular hypertrophy and epithelioma of the neck of the uterus in many cases, but in the majority of cases the distinction can be drawn. In simple glandular hypertrophy there is generally a layer of cells between the bottom of the follicles and the connective tissue, which serves as a foundation for the implantation of the ciliated epithelium lining the follicles, and the ciliary processes project into the lumen of the follicles. The interglandular tissue has a less marked infiltration of lymphatic elements than is the case in epithelioma, and the layers of young connective tissue are arranged in lines parallel to the direction of the ducts of the follicles. In epithelioma, on the contrary, there is not only hypertrophic enlargement of the glandules, but an abundant multiplication of cells also which quickly lose the typical characteristics of ciliated epithelium, the proliferation causing complete obstruction of the ducts of the glandules. The cells, after their original form has been changed, may present a polyhedral or a cubical form. When the walls of the glandule are broken, the characters and conditions of epithelioma appear. In general, it may be said that there is only a brief period in which it is possible to confound endometritis chronica with epithelioma. In conclusion, it would seem, therefore, that it would usually be easy to establish a histological diagnosis if one possessed the entire uterus. If, on the other hand, a diagnosis is to be made from the characteristics of fragments obtained by scraping, which may or may not present the conditions of glandular hypertrophy, it can not be done satisfactorily unless one has specimens which show the entire depth and area of the glands.

**Oophoritis and Cysts of the Ovary** (Petit, *ibid.*, Aug., 25, 1888).—The conclusions of the author's clinical and anatomo-pathological investigations are the following:

1. With the two principal forms of ovaritis, the suppurative and the sclerotic, the principal cystic formations are related—namely, the encysted abscesses, the follicular cysts, whether serous, caseous, or sanguineous—and it is important to distinguish these from the other tumors of the ovary.

2. It is generally admitted that the abscesses are not intimately related to the puerperal state. It is possible that they are first localized in the follicles of the ovary. They may continue a long time in a chronic state, acting as a focus of infection. With reference to cysts of the follicles it is probable that the primary cause is, in many cases, a morbid and repeated congestion of the ovary, interstitial inflammation following slowly. The successive phenomena in the history of these cysts of the follicles are hypergenesis of the epithelial elements, sclerosis of the follicular walls, degeneration of the epithelium, liquefaction of the exuded and retained exudate, and hæmorrhage.

3. In the presence of a small ovarian tumor, with no general or local symptoms of malignancy, one should first treat the case by means of hot injections, curetting, etc., and watch the progress of the growth for two or three months before resorting to castration.

**A Clinical Concept of the Cellular Inflammations of the Pelvis** (Gutierrez, *ibid.*, September 10, 1888).—Circumuterine inflammations are so frequent and their consequences are of such importance that every one should be able to make a diagnosis of them and establish suitable treatment. The anatomical disposition of the connective tissue which constitutes the pelvio-subperitoneal space, with its numerous veins and lymphatics, enables one to understand why it so readily responds and reacts to morbid causes, both directly and secondarily. The traumatisms which this tissue experiences during pregnancy, and the infectious elements which are communicated to it from the uterine cavity by the open mouths of the lymphatic vessels, are the conditions which cause these inflammations, which are apt to be suppurative and often place the lives of the puerperæ in danger. In other cases traumatism alone produces a local inflammation in the form of a circumscribed parametritis, which tends to resolution, but at the same time causes a hard, fibrous retraction of the tissues, drawing the uterus into a vicious position, and thus leading to important changes. Other causes which may give rise to the same conditions of inflammation consist of traction, which may be exerted upon the lower part of the uterus for diagnostic or therapeutic purposes, mechanical dilatation of the cervical canal, the introduction of the uterine sound, inappropriate intra-uterine medication, perhaps on the eve of menstruation, the improper use of a pessary, the abuse of coitus, and improperly administered vaginal douches or injections. A septic or gonorrhœal endometritis may also serve as an efficient cause. Individual disposition or tendency to this disease is much more pronounced in some persons than in others, the same being also true with respect to intensity. The effects of the disease are more or less limited to those portions of the genital apparatus which are provided with cellular tissue. The parametral portion of the cervix, the vesico-uterine and recto-uterine cellular spaces, and the bases of the broad ligaments, one or all, are the principal situations for this disease, and it is *parametritis circumscripta* or *parametritis diffusa*, as it is present in one or all the situations. If an inflammation which has begun in a parametral connective-tissue zone of one side is propagated to the fold which forms the parenchyma of the broad ligaments, a phlegmon of the organs involved will result. The same result may follow a direct traumatism, the inflammation being propagated from the ovary, or it may arise from infection. If the inflammation extends from the connective-tissue zones mentioned to all the cellular tissue of the iliac fossæ, it is called pelvic cellulitis. The clinical concept, therefore, is based upon the anatomical concept; the cellular inflammations of the pelvis have a distinct physiognomy, though gradations of the same lesion. They should not be confounded, for the final result is not the same in each case, and each variety calls for a particular form of intervention. If the inflammation is intense, the peritonæum, which is in intimate contact with the cellular tissue, will be involved, and the symptoms of pelvic cellulitis and pelvic peritonitis will be mingled, though clinical observation has shown the relative independence of both inflammations, especially in true parametritis. These inflammatory processes frequently terminate by resolution, but frequently also, in the puerperal state, by suppuration. In the former case there is a condensation of the connective tissue with contraction and retraction; there is also cicatrization, and deviation of the uterus from its normal position. The final result of parametritis proper is not the same as that of phlegmon of the broad ligament, when both terminate by resolution. In the former the adhesions and immobility appear, for the most part, above the cervix uteri; in the latter they are above the cervix, and also above the tube and ovary, often causing deviations of the uterus, various nervous phenomena, and sterility. The termination by suppuration follows a distinct course, according as it is treated by one or another method. If the parametritis is circumscribed, the pus finds exit by the vagina, the rectum, and sometimes by the bladder. If the inflammation is diffuse, the pus may make its exit from the abdominal wall, or it may collect in the peritonæum. The experiments of Koenig confirm the statements which have resulted from clinical observation, that phlegmonous inflammations of the broad ligaments open, if they suppurate, in the inguinal region and the iliac fossa; parametritic inflammations in the rectum and vagina, and pelvic cellulitis in the inguinal region.

**Pelvic Peritonitis: its Treatment by Forced Dilatation and Curetting** (Walton, *ibid.*).—The lesions of the endometrium constitute an important factor in the ætiology of diseases of the Falloppian tubes, peritonæum, ovaries, and parametrium, though it does not follow that this is the only way by which the inflammatory element is transmitted from the uterus to the neighboring organs.

Septic infection after having been located in the endometrium is propagated principally by the lymphatic vessels.

Pelvic cellulitis, phlegmasia alba dolens, and the great majority of puerperal accidents are caused by the absorption of septic germs.

Contagion is acquired rapidly, on account of the existence of traumatic lesions caused by parturition or abortion.

While the so-called puerperal septicæmia can be transmitted directly by the uterine parenchyma, the lymphatics, or the veins, the same condition is not propagated apart from the puerperal condition. Catarrhal inflammation and gonorrhœal infection have a tendency to invade the uterine mucous membrane. After having produced the lesions of the womb, there is extension to the tubes, salpingitis being first produced and then perimetritis.

The foregoing statements explain the views of Schröder and others that pelvic peritonitis is very frequent, and pelvic cellulitis, apart from the puerperal state, very rare.

The initiatory agent of inflammations of the mucous membrane is always a microbe. This micrococcus, whether septogenic, pyogenic, puerperal, or blennorrhœal, located in the folds of the mucous membrane, gives rise to symptoms of endometrial inflammation, which indicate active treatment for their relief.

To cure this inflammation and avoid subsequent pelvic peritonitis, dilatation, curetting, and antiseptic precautions are indicated. The following conclusions result from the author's experience:

1. In non-exudative pelvic peritonitis the pain which is the principal symptom may be relieved by dilatation.

2. In the exudative variety forcible dilatation by facilitating the return circulation may check the progress of peritoneal infarctions and assist the absorption of exudates.

3. In circumuterine or pelvic abscesses, which are usually nothing more than cysts of the tubes, it is possible, by dilating the womb, to evacuate the cysts by way of the uterine canal.

4. In cases of puerperal septicæmia the septic symptoms will disappear under this treatment. No other is so efficient for the disinfection of the cavity of the uterus and disposing of the products of infection.

5. Reflex symptoms, such as vomiting, are immediately relieved by forcible dilatation.

**The Pathogeny and Treatment of the Diseases of the Cervix Uteri** (Doléris, *ibid.*).—The best way to understand the diseases of the cervix uteri should consist in observing and carefully following the course of their pathogenesis. Obstetric traumatisms, natural or artificial, open the door to pathogenetic agents of inflammation. Inflammation impedes the spontaneous repair of the lesions. The nature of the tissues and the condition of the glandular acini insure the persistency of the changes. The changes in the form of the cervix are caused by unilateral or bilateral traumatisms, or by muscular spasm. Nervous derangement and repeated congestions establish and increase the deformities. The following deductions are based upon the study of more than a hundred clinical cases and the microscopical examination of sixty fresh anatomical specimens obtained from operations practiced upon the cervix uteri:

1. A general condition which is below the normal causes in the mucous membrane of the female genital apparatus, whether in the virgin or not, a predisposition to inflammation by encouraging passive congestion, and thus favoring excessive secretions. This condition is commonly called simple catarrh. In this catarrh there is no *a priori* inflammation.

2. Inflammation of the cervix uteri follows the introduction of and contact with phlogogenetic agents. Traumatism by means of operations and the parturient state, inflammations of the vagina, etc., prepare the way for these agents.

3. Aseptic traumatisms of the cervix are repaired without the occurrence of inflammation, whether the traumatism consists of a simple erosion or a removal of tissue.

4. Septic traumatisms do not undergo repair, but give place to persistent deformity, with inflammation, painful cicatrices, repeated attacks of perimetritis, etc.

5. Erosions, with reference to their progress, may be primary or secondary, the former being immediately related to the pathogenetic cause. They may consist of destruction of continuity in the tissue of the cervix with inflammation in the parturient woman, or they may be due to a recent inflammation in the virgin or the nullipara. The secondary erosions are those which appear upon a surface which is already diseased—that is, upon everted and cicatricial portions of the cervix.

6. Cicatrization of cervical ectropion with erosion can not take place as long as the tissues remain in a morbid condition. The cervix is changed in consequence of a chronic inflammation which produces changes in the muscular stroma.

7. The treatment, therefore, should be aimed to combat (1) recent erosions, (2) secondary erosions, (3) cervices which are not eroded, but have been diseased for a long time and in which the work of cicatrization has been accomplished.

8. The use of the cautery and of caustics favors superficial cicatrization of the openings of the glandules and the tissues between these openings. An antiseptic anodyne treatment which gives opportunity for spontaneous repair is preferable, such as might be afforded by applications of glycerin and iodoform, by irrigations, etc.

9. The actual cautery may cure with greater certainty, since it destroys all with which it comes in contact. It is not free from danger, however, and is apt to remove the capacity for impregnation.

10. Secondary erosions, as well as the voluminous, deformed, hypertrophied, and cicatrized cervices of which they form a part, are susceptible of cure by plastic or mixed methods of surgery, by means which imply the ablation of the diseased portion and the restoration of the normal form.

**The Post-mortem Appearance of a Phlegmon of the Broad Ligament** (Lewes, "Anales de Obst., Ginecop. y Pediat.," Aug., 1888).—The patient in question came to the author's attention suffering from mania and parametritis. Bronchitis supervened and terminated fatally. At the autopsy the peritoneal folds forming the broad ligament were found separated by exudate. The external surface of the peritonæum was somewhat granular. The swelling had the appearance of a sponge, and from the cavities a sero-sanguinolent fluid exuded, but no pus. The right ovary was adherent to the adjacent surface of the broad ligament by recent exudate, and contained an abscess holding two grains of pus.

This case illustrates a phase of parametritis which is rarely observed, and has great interest with reference to the pathology of oophoritis. From this it would seem to be difficult to conceive of oophoritis as a primary affection, rather than as a secondary. Perioophoritis is produced by the propagation of the inflammatory process to the Falloppian tube and pelvic peritonæum, pelvic peritonitis, including the ovary, being the result. Interstitial oophoritis may be produced by the propagation of the inflammatory process from the connective tissue between the folds of the broad ligament, along the tissue of the hilum of the ovary to the parenchyma of the ovary. Interstitial oophoritis would, therefore, seem to be secondary to parametritis. In the given case the inflammation of the broad ligament had reached the period of phlegmon, while that of the ovary had continued to the formation of abscess.

**Ninety Cases of Sterility following a Single Parturition in each Case** (Ansell, "Anales de Obstetricia, Ginecopatia, y Pediatria," June, 1888).—This author believes that sterility follows a single parturition once in thirteen times. Kleinwächter analyzed 1,081 cases of patients who had required gynæcological attention, and found among them 90, or 8·32 per cent., of sterile ones after a single parturition—a result which coincided with Ansell's statement. The causes of sterility in the 90 cases were as follows:

| | Per cent. |
|---|---|
| Inflammatory processes consecutive to the puerperal state | 17·77 |
| Catarrhal endometritis | 17·77 |
| Inflammatory processes independent of the puerperal state | 12·22 |
| Displacements of the uterus | 12·22 |
| Neoplasms of the uterus | 8·88 |
| Constitutional conditions | 7·77 |
| Sexual debility of the husband | 7·77 |
| Atrophy of the uterus | 5·55 |
| Neoplasms of the ovaries | 3·33 |
| Unknown factors | 6·66 |

The age at which matrimony was contracted had no apparent bearing in the given cases. Marriage began between the ages of 14 and 17 years in 24·04 per cent.; 18 and 20 years in 48·78 per cent.; 21 and 25 years in 21·95 per cent.; 26 and 27 years in 1·21 per cent. In this form of sterility the same ætiological factors, excepting congenital imperfections which render conception impossible, are present as in cases in which there is absolute sterility.

**Disturbances of the General Condition of Menstrual Origin** (Grattery, "Gaz. méd. de Paris," Sept. 15, 1888).—Almost all the organs of the economy may become the seat of morbid phenomena more or less accentuated under the influence of menstrual disorders, whether these are connected with difficult establishment of the function or abrupt suspension of it. The morbid phenomena are to be considered as either complementary or supplementary to menstruation. Most frequently there is limited congestion in an organ or a portion of an organ. The symptoms gradually become less marked and finally disappear when the menses are established anew. Less frequently the congestive phenomena become inflammatory in character, and in such cases the menstrual flow may disappear entirely. The ætiology of the symptoms in these cases is often very obscure. A preliminary or provisional diagnosis may be made of typhoid fever, tubercular meningitis, or nephritis, but it may happen that in three or four days the patient will appear quite well again. The treatment should consist, first, in combating the visceral phenomena with general sedatives, such as sulphate of quinine, digitalis, and bromide of potassium, or by revulsives, whether cups, leeches, or the actual cautery, the pain being quieted by subcutaneous injections of morphine; second, in the regulation of the menstrual function by the proper use of emmenagogues, leeches, or sinapisms.

# Miscellany.

**Bromidia.**—In the "Medical Press and Circular," of London, Dr. Edward Warren-Bey tells of the great extent to which bromidia, made by Messrs. Battle & Co., of St. Louis, is used by the physicians of France as a hypnotic.

**The State Medical Society of Arkansas** will hold its fourteenth annual meeting at Pine Bluff, on Tuesday, Wednesday, and Thursday, May 28th, 29th, and 30th.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending April 12th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| New York, N. Y. | April 6. | 1,560,836 | 862 | .. | .. | .. | .. | .. | .. | 6 | 71 | 48 | 13 | 19 |
| Philadelphia, Pa. | April 6. | 1,040,245 | 372 | .. | .. | .. | .. | .. | .. | 7 | 5 | 16 | 1 | 1 |
| Chicago, Ill. | April 6. | 830,000 | 291 | .. | .. | .. | .. | .. | .. | 1 | 6 | 22 | 15 | 1 |
| Brooklyn, N. Y. | April 6. | 821,525 | 317 | .. | .. | .. | .. | .. | .. | .. | 12 | 23 | 8 | 5 |
| Cincinnati, Ohio | April 6. | 255,139 | 112 | .. | .. | .. | .. | .. | .. | .. | .. | 7 | 1 | .... |
| Baltimore, Md. | April 6. | 500,343 | 162 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 1 |
| St. Louis, Mo. | March 30. | 440,000 | 168 | .. | .. | .. | .. | .. | .. | .. | .. | 10 | 2 | 3 |
| Detroit, Mich. | March 30. | 250,000 | 69 | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | 1 |
| Pittsburgh, Pa. | April 6. | 230,000 | 85 | .. | .. | .. | .. | .. | .. | 1 | 3 | 1 | 2 | 2 |
| Cleveland, Ohio | March 2. | 235,000 | 75 | .. | .. | .. | .. | .. | .. | 3 | 1 | 2 | .. | .... |
| Cleveland, Ohio | March 9. | 235,000 | 77 | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | .. | 1 |
| Cleveland, Ohio | March 16. | 235,000 | 77 | .. | .. | .. | .. | .. | .. | 3 | .. | 2 | .. | .... |
| Louisville, Ky. | March 30. | 227,000 | 70 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | 1 | 6 |
| Washington, D. C | March 30. | 225,000 | 89 | .. | .. | .. | .. | .. | .. | 3 | .. | .. | .. | 2 |
| Washington, D. C | April 6. | 225,000 | 123 | .. | .. | .. | .. | .. | .. | 4 | .. | 3 | .. | 3 |
| New Orleans, La. | March 30. | 254,000 | 96 | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | 1 | .... |
| Milwaukee, Wis | March 30. | 210,000 | 67 | .. | .. | .. | .. | .. | .. | .. | 2 | 3 | .. | .... |
| Milwaukee, Wis. | April 6. | 210,000 | 54 | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .... |
| Minneapolis, Minn. | March 30. | 200,000 | 52 | .. | .. | .. | .. | .. | .. | .. | 1 | 4 | .. | .... |
| Newark, N. J. | April 2. | 181,351 | 63 | .. | .. | .. | .. | .. | .. | .. | 2 | 6 | .. | .... |
| Newark, N. J. | April 9. | 181,351 | 96 | .. | .. | .. | .. | .. | .. | 1 | 3 | 7 | .. | .. |
| Kansas City, Mo. | March 30. | 180,000 | 22 | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .. | .... |
| Providence, R. I. | April 6. | 127,000 | 43 | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | .. | 1 |
| Rochester, N. Y. | April 6. | 120,000 | 34 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | 1 |
| Richmond, Va. | March 30. | 100,000 | 39 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Richmond, Va. | April 8. | 100,000 | 46 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 |
| Denver, Col. | April 5. | 100,000 | 32 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | .... |
| Toledo, Ohio | April 5. | 80,000 | 14 | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .... |
| Camden, N. J. | March 14. | 70,000 | 30 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Camden, N. J. | March 21. | 70,000 | 18 | .. | .. | .. | .. | .. | .. | 3 | .. | .. | .. | .... |
| Camden, N. J. | March 28. | 70,000 | 37 | .. | .. | .. | .. | .. | .. | 3 | .. | 1 | .. | .... |
| Nashville, Tenn. | April 6. | 65,153 | 14 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Fall River, Mass. | April 6. | 65,000 | 19 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .... |
| Charleston, S. C. | March 30. | 60,145 | 28 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Charleston, S. C. | April 6. | 60,145 | 49 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Lynn, Mass. | April 6. | 50,000 | 15 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me | April 5. | 42,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Manchester, N. H. | March 30. | 32,630 | 14 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .... |
| E. Saginaw, Mich. | April 6. | 40,000 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Galveston, Texas | March 22. | 40,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Galveston, Texas | March 29. | 40,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Council Bluffs, Ia. | March 30. | 35,000 | 8 | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .... |
| Davenport, Iowa | March 30. | 33,715 | ...... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Davenport, Iowa | April 6. | 33,715 | 6 | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .... |
| Altoona, Pa. | March 30. | 30,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Altoona, Pa. | April 6. | 30,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Auburn, N. Y. | March 30. | 26,000 | 13 | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .... |
| Auburn, N. Y. | April 6. | 26,000 | 11 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Haverhill, Mass. | March 31. | 25,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass. | April 6. | 25,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newport, R. I. | March 28. | 22,000 | 5 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .... |
| Newport, R. I. | April 4. | 22,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .... |
| Newton, Mass. | April 6. | 21,553 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Keokuk, Iowa | March 30. | 16,000 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Keokuk, Iowa | April 6. | 16,000 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Pensacola, Fla. | March 30. | 15,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Pensacola, Fla. | April 6. | 15,000 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**Neurasthenia.**—"The great characteristics of the pulse in children and infants are reproduced in the pulse of those suffering from neurasthenia. As the circulation of the infant is characterized by irritability, irregularity, and variability, so it is with the circulation of these patients—a clear example or illustration of the theory of dissolution as applied to the nervous system; but these attributes belong not alone to the pulse; they define equally well the mental processes and the other nervous actions in this affection. The variations in the pulse-rate are not more remarkable than the changes in the 'spirits' of these patients. Nor can the explanation of these variations be always adequately accounted for by recognizable external conditions. The external conditions include any change at the periphery of the nervous system, whether this periphery be the sensory nerve-endings in the skin, the muscles, the alimentary or respiratory tracts."—*Lancet.*

## ANSWERS TO CORRESPONDENTS.

*No. 260.*—We can find no report of a case that would answer as a precedent. Your contention is undoubtedly just, but we should advise you not to appeal.

*No. 261.*—1. The "Journal of Laryngology and Rhinology," published by R. Anderson & Co., 14 Cockspur Street, Charing Cross, S. W., London. 2. Mr. Lennox Browne.

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Original Communications.

### CRITICAL REMARKS ON THREE CASES OF ABDOMINAL SECTION FOR THE RELIEF OF INTERNAL OBSTRUCTION OF THE INTESTINE.

By ARPAD G. GERSTER, M. D.,

PROFESSOR OF SURGERY AT THE NEW YORK POLYCLINIC; SURGEON TO THE GERMAN AND TO MOUNT SINAI HOSPITALS, NEW YORK.

In bringing to public notice from time to time both the successful and unsuccessful cases of intestinal obstruction within my experience treated by laparotomy, I only fulfill a duty universally acknowledged by the profession. In two of the cases here reported *bands* were found to be the cause of strangulation. Comparatively mild symptoms were observed in the beginning of the disorder in both instances, and, unfortunately, led to fatal procrastination. In spite of the relief afforded by the division of the bands, both patients died of the peritonitis and shock found to be present before and at the time of the operation.

The morbid condition requiring surgical interference in the third case was *volvulus*. Here the disease had set in at once with such decided symptoms of general dejection as to suggest the possibility of the presence of typhoid fever in its initial stage. This led to the speedy transfer of the patient to the hospital, where, the true character of the trouble being recognized, no time was lost in giving relief, and in every way successfully, by prompt laparotomy.

The cases were as follows:

Case I.—Miss Rosa L., a rather slender anæmic girl of nineteen, had, in May, 1888, some abdominal trouble accompanied by vomiting and ileo-cæcal pain, but no swelling. She was kept in bed for a week. June 6th—that is, about three weeks after the occurrence—she was well enough to dance. In taking a leap she felt a sudden sharp pain above the umbilicus. She was put to bed and a laxative was administered, with no appreciable effect, except to cause vomiting. The rectum, however, seems to have been evacuated by a series of enemata. No movement of the bowels had taken place between the 6th and 14th of June, when I first saw the patient. The family attendant reported that ever since June 6th persistent, since June 9th fæcal, vomiting and intense thirst had been complained of. No fever, however, nor meteorism were present. The pulse also was full and normal in quantity. June 13th a medical consultant, who had repeatedly seen the case, and had, in spite of the fæcal vomiting, rejected the proposal made by the family attendant of doing laparotomy, performed a rather vigorous course of massage of the belly of the patient, who was kept in the prone position during the procedure. Very intense pain was complained of during this process, which was followed up by the administration of a number of large enemata administered in the knee-elbow position. No improvement followed any of these measures, but, on the contrary, fever and meteorism set in—indications of peritonitis. The patient's condition being nearly hopeless now, the proposal of laparotomy was finally accepted. June 14th I found the patient lying in the dorsal decubitus, with anxious expression, face covered by perspiration, rate of respiration increased, temperature 101·5° F., tongue dry, thirst intense, a great deal of tympanites, the thighs flexed on the pelvis. No vomiting occurred when food was withheld, but if any nourishment was taken, fæcal vomiting ensued. The pulse was 100 beats to the minute. Laparotomy was immediately performed at the home of the patient. An incision, seven inches long, reaching about three inches above the navel, was at once crowded full of much-distended, purple, deeply congested intestines, which were received in hot towels. The gut was filled with fluid masses principally. In passing my hand into the abdomen and moving it about among the coils of gut in various directions, it was finally arrested by a tightly conglomerated, immovable, and intensely distended portion of the ileum, which was found to be immovably fixed near the margin of the smaller pelvis in the right iliac fossa. Being exposed, this immovable convolution was found to consist of a large loop of gut that had slipped through, and was strangulated in an aperture formed by a short, solid band of connective tissue extending from the brim of the pelvis to the mesentery of the ilium. The band being severed, the contents of the distended intestine were at once seen to pass into the empty distal segment. Owing to the collapsed condition of the patient, the anæsthesia was very difficult and much interrupted. Whenever insensibility was produced, deep cyanosis and stoppage of the pulse warned me from continuing the use of ether. The next moment, however, violent contractions of the abdominal muscles hindered the progress of the operation in a very disagreeable manner. A careful revision of the entire intestine was not deemed advisable under these circumstances, and closure of the abdominal cavity was proceeded with in the hope that the strangulation which had been relieved by cutting the band above mentioned would be the only trouble present. It was very noticeable how much the distension of the small gut was diminished by the passage of a large part of its contents into the distal part of the intestinal canal. Nevertheless, replacement of the abdominal contents and closure of the wound was by no means easy. Kuemmel's proposal of tucking the edges of a disinfected towel under the abdominal parietes, using this artificial diaphragm for the retention of the intestines while the stitches were passed and closed, was found of great utility, and materially helped a rapid closure of the wound. Under vigorous stimulation the patient rallied unexpectedly well from the shock. Her temperature, however, did not fall as was hoped, but after a short pause rose to 103° F. with all the usual symptoms of intense general peritonitis. Food was vomited, the distension of the abdomen became more marked, interfering with respiration, and therefore it was deemed advisable to commence with the administration of a saline cathartic, of which two half-ounce doses were taken. but almost immediately rejected. On June 16th, about twenty hours after the operation, the patient suddenly collapsed during a spell of vomiting, her last exclamation being a wail of complaint about a sharp pain in the belly.

As no post-mortem examination was permitted, it could not be ascertained whether death was due simply to general peritonitis, the beginnings of which were already found at the time of the operation; or whether a second band was overlooked and the strangulation thereby produced left unrelieved; or, finally, whether perforation of a diseased part of the intestine was caused by the use of the laxative.

The principal corollary and lesson of the case, however, is the fact, which I do not hesitate to express with some emphasis, that procrastination robbed the patient of otherwise good chances of recovery. Had laparotomy been performed two or three days before the advent of peritonitis, a leisurely and methodical examination of the entire intestine would have been possible, both on account of the good condition of the patient and mainly because extreme tympanites was absent at that time.

Case II.—Samuel Gross, a Hebrew tailor, thirty-three years old, had in the morning of January 21, 1889, made a hearty meal of beer and cheese. About noon of the same day sharp colic compelled him to abandon his work. The same evening his sufferings were augmented by vomiting, which regularly followed whenever the patient quenched his burning thirst by drinking. The case bore the aspect of an indigestion, and was treated accordingly, the family physician administering one strong cathartic after the other. Only after the cathartics were all rejected, and great tympanites with fever had set in, were enemata tried, but to no purpose. On January 23d fæcal vomiting appeared, and on January 27th I found the patient suffering from cyanosis, owing to the enormous distension of the belly, which was very painful on touch everywhere. In the right iliac fossa an increased resistance could be made out distinctly, but the percussion sound there was clearly tympanitic. The temperature was 102·6° F., pulse 112 a minute, respiration hurried, and a clammy perspiration covered the patient's skin. In spite of his poor condition, laparotomy was suggested as the only means of relief, and the man was accordingly transferred to Mount Sinai Hospital, where chloroform was administered. Dark, brownish-purple, much-distended gut escaped through the rather extensive abdominal incision, and was cared for in the usual manner by being wrapped up in hot towels. Most of the small intestine had to be thus withdrawn from the abdominal cavity before a recognition of the existing conditions was rendered possible. In the right iliac fossa a convolution of intestine was found to be firmly fixed, and, being well exposed, it became evident that the apex of the vermiform appendix was attached to the transverse mesocolon on its lower aspect, where the place of attachment was marked by intense reddening of the peritonæum, back of which a rather massive swelling of intumescent mesenteric glands could be seen and felt. About three feet of the ileum had slipped through the aperture formed by the appendix, and were tightly strangulated and ominously discolored. In applying a double ligature to the appendix near its attached point, this separated from the mesocolon, and a few drops of thick pus escaped from a fistula located in the center of the spot of attachment. This place being well surrounded by a number of sponges, about two drachms of pus were pressed out of the abscess cavity located within one of the enlarged glands. The surrounding surface was carefully disinfected, and protected by a strip of iodoformed gauze, after which, another ligature being applied to the root of the appendix, this was excised. The patient's complexion, distinctly cyanosed even before, became still more so at this stage of the operation, the pulse thready, and stimulation by means of hypodermatic injections of whisky had to be resorted to to ward off imminent collapse. The deep, passive hyperæmia of the entire small intestine seemed to be only one phase of the general venous stasis, undoubtedly due to a failing heart's action. However difficult were the initial steps of the operation, the most formidable obstacles were met with when the reduction of the intestines was attempted. Profound anæsthesia was out of the question, the abdominal muscles were contracted to a board-like rigidity, and Kuemmel's expedient of replacing the bowels by means of a towel spread over them and tucked under the margins of the abdominal wound failed utterly. Nay, its application led to another serious complication. The cohesion between the visceral peritonæum and the muscularis of the gut had been so diminished by the prevailing œdema that the surface of the gut, becoming matted to the carbolized towel, clung to it to such an extent that large and wide flaps of visceral peritonæum were stripped up during and in consequence of the efforts at reduction. It became evident that further attempts in the same direction would inevitably lead to a rupture of the gut, and therefore enterotomy was done on a loop of intestine well drawn away from the rest. After the evacuation of several quarts of liquid fæces the parts were occluded by finger pressure and well cleansed, and the intestinal wound was closed by a Lembert suture. Less difficulty was met with now in the reduction of the gut, but the application of the abdominal sutures was nevertheless very troublesome. Before closing the last stitch, the strip of iodoformed gauze placed against the aperture of the mesenteric abscess was withdrawn. The patient was brought to bed in a collapsed and deeply cyanosed condition, and died, although restoratives and stimulants were freely administered, about an hour and a half after the operation, which had consumed just an hour and ten minutes.

It seems to me that, had the operation been preceded by an evacuation of the distended stomach by means of the stomach tube, less difficulty would have been experienced in the replacement of the prolapsed intestine.

My third and successful case presents a pleasing contrast to the foregoing two cases. Its favorable issue is entirely due to the early recognition of the obstruction and the prompt measures resorted to for its removal at a time when the absence of tympanites made the steps of the operation easy, permitting expedition combined with thoroughness, and when the patient's strength was not sapped by prolonged vomiting and peritonitis.

Case III.—Mary Block, twenty-seven years old, a Hebrew housewife, began to have colicky pains on January 1, 1889, with headache, lassitude, a bad taste in the mouth, with dryness of the tongue. She noticed also that pressure in the right hypochondriac region intensified the pain. Her bowels had been more or less constipated for some time, and therefore cathartics were administered on January 2d, having little effect. More cathartics were given on January 5th, but were rejected. The local pain and general dejection increasing, she sought admission to Mount Sinai Hospital on January 7th. On admission, the following facts were noted down: Patient fairly nourished, but pale; face drawn and anxious; temperature, 100° F.; respiration, 26; pulse, 90, rather weak; tongue, dry and covered with dark sordes; intense thirst, with nausea; great general dejection. Palpation of the abdomen, which is soft and moderately distended, reveals a resisting mass, presumbly of intestine, which is painful to touch and pressure. On deeper, bimanual examination of the right loin, a distinct tumor can be made out, occupying the site of the right kidney, which, however, does not seem to be painful. The urine was found normal. The case was a puzzling one in several respects, and, in order to gain a better insight, large hourly enemata were ordered to be given in the knee-elbow position for the following ten hours. Opiates were withheld, and no nourishment of any kind was permitted. On the morning of January 8th it was reported that eight enemata had produced no appreciable effect. The patient's condition had become rather worse than better, its physical characteristics remaining unchanged. At 11 A. M., ether being administered, an ample incision was made through the abdominal walls, extending to an equal distance above and below the navel. The first thing noted was a convolution of much-reddened, distended, and somewhat œdematous gut, lying in the right side of the abdominal cavity, surrounded by coils of pale and normal-looking, empty intestine. This hyperæmic portion of gut proved to consist of about two feet of the lowest portion of the ileum, twisted on its mesentery, the vessels of which showed marked venous stagnation. No adhesions had as yet formed, and it was an easy matter, after finding the cæcum, to pass first the entire small intestine and afterward the whole of the large gut through the fingers. Thus was the locality of the twist ascertained, and the presence of any other intestinal trouble excluded, the latter point one of great value, as it permitted a fearless use of cathartics in the after-treatment. Incidentally it was also made out beyond any doubt that the swelling in the right loin consisted of a somewhat enlarged and movable kidney, which, however, bore no apparent relation to the intestinal disorder. As soon as the normal position of the twisted coil of gut was restored, its liquid contents passed on into the colon, and the marked distension disappeared. The abdominal walls being closed, the wound was dressed and the patient brought to bed.

*January 9th.*—It was found that she had recovered rapidly from the anæsthesia, had needed one hypodermatic injection of morphine during the night for some pain, and passed urine spontaneously. The temperature was 98·6° F. during the day; it rose at midnight to 101·4° F., but fell to 98·2° F. by the morning of January 12th. Occasionally a few drops of the tincture of opium were administered to allay restlessness. It was noted that the patient's tongue became moist and clean within twenty-four hours after the operation, that she consumed liquids without nausea and kept them down, and that the abdominal pain formerly complained of had disappeared. Some flatulence being present, several drachm-doses of sulphate of magnesium were administered on January 12th at half-hourly intervals. After four doses, an enema was given, and this brought away a small amount of fæcal matter, followed by a second small stool at 6 P. M. At seven o'clock another enema was given, and resulted in a large stool. During the night four more semi-liquid evacuations dispelled all apprehensions in regard to the permeability of the gut. Convalescence proceeded uninterruptedly, except for the appearance of several stitch-hole abscesses of the abdominal wound, which, being evacuated, healed promptly and were cicatrized over by February 10th. On February 26th the patient was discharged cured.

# ELECTRICITY IN DISEASES OF THE BRAIN AND VASO-MOTOR SYSTEM.*

By LANDON CARTER GRAY, M. D.

As the task has been allotted to Dr. Birdsall of speaking of the effects of electricity upon diseases of the spinal cord, the central nervous diseases which have been assigned to me must be those of the brain and the vaso-motor nervous system. Before entering more immediately upon my subject I desire to say a few rapid words about some essentials in electrical apparatus. Every one using electricity should have a more or less constant cell, an accurate meter, an interposer and regulator of resistances or rheostat, and electrodes of such varying sizes as to be adapted to the different organs of differently sized individuals. An absolutely constant cell has never yet been made, but there are a few different makes upon the market in which the constancy may be said to be practically perfect, although the larger proportion of cells that are sold vary so enormously in their constancy as to be well-nigh useless to the physician. The requisites of a meter—nowadays called a milliampère-meter, since the thousandth part of an ampère, or a milliampère, has been adopted as the electrical unit—are accuracy, a needle that shall swing but slightly, a locking apparatus that shall make the meter portable without injury to the needle, a scale large enough to permit of one fourth of a milliampère being easily read at a distance of ten feet, and on which from one to thirty milliampères can be measured. Some American milliampère-meters possess all these necessary qualities with the single exception of the large reading scale, which has not as yet been introduced into this country, so that I for one use almost entirely an instrument made by Hirschmann, of Berlin. Without a meter it is absolutely impossible to give a galvanic current accurately, and without a rheostat it is impossible to make small additions and subtractions of the current. When it is remembered that the meter has only been introduced to this country within a few years, and that only a few electricians use a rheostat, it can be understood that the giving of electricity in America has been a matter of pure empiricism until within a short period of time. I confidently assert that the vast majority of American medical gentlemen using electricity at the present day do not possess the proper apparatus for measuring the current or for grading it delicately. As I have used electricity almost daily for some sixteen years, I shall venture to draw deductions from my own experience, even if they do not always agree with the opinions of others.

The diseases of the brain may, for our purpose, be divided into the insanities and gross cerebral diseases. From the insanities we may exclude the very chronic and incurable forms. Subacute mania, melancholia, the insanity of doubt, and those various morbid fears and fancies which so many writers have called cerebral neurasthenia, and to which I have thought it more proper to give the name of the functional insanities, can all usually be benefited by electricity, but only in the period of convalescence. I have never seen the slightest benefit come from the administration of electricity in the acute stages of these mental troubles. Melancholia usually responds best of all to this form of treatment, mania next best, while the amount of benefit which can be obtained in the insanity of doubt and the functional insanities will vary from case to case. Of the gross cerebral diseases it may be said that it is useless to administer electricity in brain tumors, in meningitis of traumatic or epidemic or aural origin, or in facial hemiatrophy. Electricity is usually a very useful adjuvant to other treatment in intracranial syphilis in the early stage of headache and insomnia, before paralysis or mental changes have supervened, and sometimes in the later stage following hemiplegia. As is well known, hemiplegia may occur in the adult or the child from a great variety of causes, and whether or not electricity shall be used will depend upon the particular case. Roughly speaking, it may be said that adult hemiplegia is produced by a lesion of the motor or sensory cortical centers or of the nerve strands leading from them to the basal ganglia, thence through the complicated subthalamic structures to the crura cerebri, to the pons, and thence to the cord. The principal lesions affecting these parts and which may cause hemiplegia are traumata, neoplasms, meningitis (mainly of the epidemic type), syphilis, and the changes in the blood-vessels occurring in the endarteritis of middle age or nephritic disease, or from cardiac and pulmonary emboli. Neoplasms and meningitis may be omitted from the treatable causes, and syphilis has already been mentioned. If the molecular changes induced by chronic endarteritis of middle age, or of nephritis, or by the emboli, are such as not to lead to a fatal issue, they can usually be favorably influenced by electricity when the primary symptoms of shock have thoroughly passed off. The hemiplegia of children is most apt to occur in early infantile or fœtal life from encephalitis, porencephaly, meningitis of traumatic or epidemic origin, neoplasms, and alterations in the vessels supplying the basal ganglia. Encephalitis, neoplasms, and meningitis of epidemic origin can be omitted from the treatable causes. Meningitis of traumatic origin, if slight, may be benefited by electricity, and if the hemiplegia of vascular origin be not followed by contracture it can usually be benefited by electricity. General paresis of the insane can not be influenced by treatment, except temporarily, but there are a certain number of cases of intracranial syphilis with slowly supervening symptoms of dementia which are often very difficult to distinguish from general paresis, and in these cases a great deal of benefit can often be temporarily obtained from the use of electricity. Tic douloureux is uncertain in its response to electricity, for I have seen some cases very greatly benefited by it, while to others I have faithfully administered electricity in every way and form for months without the slightest appreciable result.

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* Read in the discussion on the place of electricity in therapeutics at the New York Academy of Medicine, March 21, 1889.

A great deal depends in these cases as to the form of electricity which is used and as to the manner in which it is given. I may at once say that I have no faith whatsoever in the Holtz machine or what is named static electricity, which I regard as a very pretty and imposing toy that is sometimes temporarily beneficial and which generally has a fine psychical effect upon impressible individuals of hypochondriacal or hysterical tendencies. The two currents which will answer every purpose of the physician are the galvanic and the faradaic. It is somewhat difficult in a brief debate of this kind to give more than general indications as to the current which shall be used in each particular case. It may be said, speaking in this somewhat general way, that the insanities require only electrical treatment addressed to the intracranial contents, and that this is almost invariably done best with the galvanic current. It may furthermore be said that the gross cerebral diseases produce two great classes of symptoms: those that are entirely cerebral, and those that are both cerebral and peripheral. In the former class galvanism addressed to the intracranial contents will usually answer every purpose, while in the latter class it may be best to employ galvanization of the intracranial organs and faradization of the affected peripheral structures. The administration of electricity, therefore, in diseases of the brain consists of cerebral galvanization and peripheral faradization. If the object is to galvanize the whole intracranial contents, this can usually be done by the use of one electrode upon the nape of the neck and another upon the forehead. The cervical electrode should be about seven inches long and three inches wide, while the frontal electrode should be about five by two and a half inches. One electrode, preferably the one upon the neck, should be placed in position; then a very slight current should be turned on, and the other electrode should then be placed upon the forehead so gently and gradually as not to cause the slightest vertigo or flash of light before the eyes. By means of the rheostat the current should now be very gradually increased, always so gently as to avoid vertigo or flashes of light, until one milliampère is measured. Usually one or two milliampères are all that can be pleasantly borne through the brain, although some individuals will take very much larger doses, and in this respect the susceptibility of the brain is infinitely greater than that of the spinal cord or the nerves and muscles, in both of which latter, I may be permitted to say, I use currents running up to thirty milliampères, contrary to the tenets of the German school. The current should be allowed to pass in the first sittings for only three minutes, although a patient will usually rapidly grow accustomed to larger doses. The test of the requisite quantity is the effect upon the patient. Many patients who will be made uneasy, dizzy, and sleepless by ten milliampères will be very greatly relieved and stimulated by one or two. In removing the electrodes the current should first be very gradually diminished to an almost imperceptible measurement upon the meter, and then one electrode should be carefully tilted upon its edge and taken off in the same gentle and gradual manner, so as not to cause vertigo or flashes of light. If a lesion can be localized within the brain, and it is desired to affect any particular portion, the situation of the electrodes may be varied accordingly, and even the size of the one to be placed over the diseased locality may be also varied. The peripheral structures that are affected by the intracranial disease may be treated best usually with faradism, and this can be done by picking out the motor points which have been so carefully delineated of late years by electricians, a small electrode being placed over the motor point. It is useless to waste time in vaguely wandering over a group of muscles when it is so perfectly practicable to strike a nerve at its so-called "motor point," and precisely carry the electricity to the muscles within its distribution. In tic douloureux the trigeminal nerve, according to the branch affected, should have a small round electrode two inches in diameter placed upon it, while an electrode of the size already given should be placed upon the nape of the neck, a current of one to two milliampères being used for three to five minutes, although sometimes a current running as high as ten or fifteen milliampères will be found extremely useful. The question as to which pole should be employed, or as to whether an ascending or descending current should be used, has been a very puzzling one to me for a great many years. I am perfectly well aware that there is a difference between the chemical effects of the negative and the positive pole. I am perfectly well aware that there is a physiological difference between the negative and the positive poles, and that upon this difference is based the prognostic use of electricity. I am furthermore perfectly well aware that every patient can distinguish the positive from the negative pole by the sensation. Yet, in spite of all these indubitable differences, chemically, physiologically, and pathologically, between the negative and the positive pole, I have never yet been able to satisfy myself that there was a therapeutic difference between them. Reasoning from *a priori* considerations, the text-books tell us that the positive pole is sedative and that the negative is stimulant, whatever these terms may mean to the writers who so often employ them rote-like; but over and over again, on hundreds and hundreds of patients, have I unavailingly endeavored to obtain indications for the use of the positive or the negative pole in a given disease. The only rule which I can lay down is this: Where one pole does not agree, try the other; and if that does not agree, stop using electricity. The question of the ascending and the descending current has of late years been merged into the question of the poles, although I think there is a difference, but I know of no indications for one more than the other.

## THE LIMITATIONS OF THE INFLUENCE OF THE MIND UPON THE BODY,

### BEING A DISQUISITION UPON THE TRUTHS AND DELUSIONS OF PSYCHO-THERAPEUTICS.*

By J. LEONARD CORNING, M. A., M. D.,
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THE reciprocal relations of mind and body constitute one of the most thoroughly apprehended principles of physiology. From the beginning of philosophy—yes, I had almost said, from the very dawn of thought itself—men became conscious of a hand, intangible in its subtlety but none the less real, weaving into indissoluble harmony the life within with the life without, the mind with the body, the seen with the unseen, the overwhelming mystery of conscious individualism with the perturbations of flesh and blood.

In the earlier stages of the world's history this mystery became the talisman of jugglers, priests, and oracles; with the evolution of speculative philosophy it became the object of some of the loftiest flights of the human intellect; while in modern times the application of the principles of the natural sciences to the elucidation of vital phenomena has given a new direction to current thought.

While, therefore, the physiological psychology of the day has done much to clear away superstition and that crude generalization which is equally disastrous to sane thinking, it must be confessed that much that is barbarous, much that is quixotic, still abides with us. A striking exemplification of the intellectual vandalism which periodically breaks out in societies, even the most civilized, is at present afforded by that curious conglomeration of superstition and grotesque fallacy known variously as the "mind-cure" and the "faith-cure." Armed with a spavined logic, founded upon half truths, a horde of fanatics, ignorant of the most rudimentary principles of medical science, has swept down upon civilized society, which it threatens to overwhelm with a mode of treating disease as quixotic as it is dangerous to the weak-minded votaries of this modern phase of humbug. The expressed belief of these mind-healers, or whatever else they may call themselves, is to the effect that all physical ailments, whatever their gravity may be, originate in an unhealthy condition of the mind itself, and that hence all diseases may be prevented or cured through the mind; for, they add, do not all educated physicians admit the close relationship existing between mind and body; do they not grant that the former exerts a prodigious effect upon the latter? Here is the key which reveals to us the manner in which these impostors gain ascendancy over other dupes. Laying hold upon the recognized fact that the mind does really exert a circumscribed influence upon the body, the faith-healing charlatan ignores all limit, and declares that because emotional excitement may cause a person to grow pale or to become suffused with blushes, therefore an appeal to the mind must bring about a cure of the most incurable phases of organic disease. As a further support to their specious pretensions, they appeal to a fund of well-worn stories of how headaches, hysterical imitations of organic disease, or hypochondriacal delusions, or, in short, minor functional conditions, have been relieved by addressing the therapeutic appeal to the mind. When such evidence has not been enough to convince the incredulous, they have not hesitated to resort to limitless mendacity—a mendacity which, though but a grotesque exhibition of depravity in the eyes of thoughtful people, has been sufficient to dupe the shallow reasoner, and to minister to that thirst for sensationalism which is the true birth-work of mental shallowness. Such, I conceive, is a fair exposition of that outbreak of charlatanism—half knavery, half fanaticism—which has invaded our cities, and particularly our large cities, within the last few years. Before leaving New York for Albany, to attend the meeting of the State Medical Society this year, I was requested by a number of medical gentlemen, for whose distinguished talents I have the highest respect, to deal with this latest abomination. How well I shall have acquitted myself of the task is for your honorable body to decide. Certain it is that my motives are those of patriotism—a patriotism which, for that matter, concerns the profession as a body quite as much as individuals.

To avoid the possibility of an imputation of unfairness, let us proceed with calmness.

The first question that naturally suggests itself is this: What are the limits of the action of the mind upon the body? This question may be answered by experience somewhat as follows: We know, in the first place, that ordinary sensation may be temporarily evoked, diminished, exalted, or perverted.

In his remarkable little book on hypnotism, Mr. Braid gives the account of an experiment which admirably illustrates the influence of the intellect on sensation.

> Four gentlemen, some of whom occupied exalted positions in the scientific world, were requested to place their arms o
> table with the palms of their hands turned upward. S
> having been enjoined, each was requested to look at t
> of his hands for a short time, his whole attention be

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* Read before the Medical Society of the State of New York at its eighty-third annual meeting.

same time focalized upon this simple act. What happened is most interesting from a psycho-physiological standpoint. In the first place, five minutes had scarcely elapsed before one of the gentlemen complained of a sensation of intense cold in his hand; another soon afterward declared that he felt a pricking sensation in the palms of the hands, as though electric sparks were emitted from them; a third felt a disagreeable sensation of heat in his hand, while the fourth had become affected by cataleptic rigidity.

Insensibility to pain induced by psychical means is one of the remarkable facts of hypnotism. This subject has recently been revived and thoroughly discussed in the medical journals. The induction of the condition known as the hypnotic or mesmeric state is not, however, indispensable to procuring exemption from pain, for there are persons who, thanks to a mere association of ideas, coupled with a continuous powerful expectancy, are able both to rid themselves of pain and even to prevent its occurrence. Tuke relates that on one occasion he was about to have a tooth extracted under the influence of laughing gas, when, in consequence of an unlooked-for *contretemps*, the dentist was unable to administer it. The extraction was therefore performed without it, but the operation was rendered almost painless by the writer's vividly imagining pleasant ideas, and mentally repeating to himself How delightful! How delightful!

More common is the immunity from suffering enjoyed by persons while in a state of great excitement; while in this condition they may be wounded by bullets, sharp instruments, or even burned, without experiencing pain. Forty years ago Dr. Elliotson, and subsequently Dr. Esdaile, reported scores of cases in which surgical operations of the greatest gravity had been performed without pain by the aid of mesmerism. It was thought at that time, and the same idea has been lately repeated, that the true surgical anæsthetic had been found; but the simple fact that only a certain percentage of persons can be hypnotized utterly destroys such hopes as these. I shall have occasion to refer to this point later on when discussing the limitations of legitimate psycho-therapeutics.

The intellect may exert an habitual and an exceptional influence over the movements of voluntary muscles; the former effect is seen in the wonderful and almost continuous play of the facial muscles; the latter is exemplified by the action of the muscles, notably those of the hand and face, in persons whose thoughts are being divined by the "thought-reader," as the individual is called who is able to follow the mental action of another by the aid of the betrayal of thought afforded by subtile concomitant actions of the muscles.

Temporary loss of muscular power (paralysis) may also be induced through mental action. The suggestion culminating in the fixed belief that a muscle or group of muscles can not be contracted or relaxed is enough in susceptible persons to induce a transient loss of power. Fixed expectancy engendered, for example, by the suggestion of an individual in whom the person operated upon stands in some or awe, or by circumstances which exert a like potent ce upon the imagination, may give rise to astonishing modifications of the special senses, as well as of the muscles and general sensibility.

Many of the hallucinations occurring in sane persons, or those who are usually, at least, not accounted insane, are to be referred to this circumstance.

Here is an instance in point related by Professor Bennett, of Edinburgh:

> "A clergyman told me that some time ago suspicions were entertained in his parish of a woman who was supposed to have poisoned her newly born infant. The coffin was exhumed and the procurator, who attended with the medical men to examine the body, declared that he already perceived the odor of decomposition, which made him feel faint, and in consequence he withdrew. But on opening the coffin it was found to be empty, and it was afterward ascertained that no child had been born, and consequently no murder committed."

This is an excellent illustration of the powerful suggestive effect upon the mind of dramatic circumstances, and of the readiness with which such suggestions become translated into veritable hallucinations. It is only necessary to repeat that similar phenomena may be evolved by suggesting to a susceptible person the certainty, probability, or even possibility of their occurrence.

Here is a case, narrated by Dr. Gregory and quoted by Tuke, which illustrates this point:

> "In Kleische, a small village in Germany, a maid-servant was sent to buy some meat. She executed her order correctly, and as she was returning in the evening she thought she suddenly heard a great noise behind her, like the noise of many wagons. Upon turning around, she observed a little gray man, no bigger than a child, who commanded her to go along with him. Upon reaching the outer court of her master's residence, she was met by the coachman, who asked her where she had been, to which she returned a very distinct answer. He did not remark the little man, but she still continued to do so. As she was passing the bridge he summoned her for the last time, and, upon her refusing to answer him, he told her, with a menacing look, that she should be four days blind and dumb, and having said so he disappeared. The girl hastened to her apartment and threw herself on the bed, unable to open her eyes or to pronounce a word. She appeared to understand all that was said, but could not make any answer to the questions which were proposed to her except by signs. Everything was tried for her recovery by the family with whom she lived, but all was in vain. She was incapable of swallowing the medicines which were ordered for her. At last, on the expiration of the fourth day, she arose in tolerably good health and narrated what had happened to her."

The limits of the present paper will not admit of further enlargement on the questions of the modification of the special senses by the intellect, or, if a more exact form of statement be desired, by cortical function. I will merely add, therefore, that during the hypnotic or mesmeric state the most astounding exaltation and depression of the special senses may be induced by suggestion. These facts have long been known to the profession, and I have repeatedly had the opportunity of making interesting demonstrations on persons susceptible of being hypnotized.

It has also long been known that the involuntary muscles may be influenced by the intellect; the heart's action may be rendered irregular by concentrating the thoughts upon it; the blood-vessels may be made to expand or contract, as seen in blushing or the pallor from fear; nausea, vomiting, and even peristaltic action of the intestines, may be induced by imaginary causes. I know a lady who suffered from nausea at the mere sight of a dead cat. A large number of cases are also on record where vomiting has been caused in persons who had taken inert substances which they falsely imagined to be endowed with emetic properties; and even evacuations of the bowels have been induced over and over again by leading the subject to believe that he had taken a purgative, while in reality a bread pill or some other inert substance had been administered.

The secretory functions and general nutrition are much influenced by mental phenomena; hence, a mass of evidence is forthcoming which shows conclusively that the salivary glands, the kidneys, the skin, and probably even the intestinal glands, may be functionally affected through the imagination, precisely as we have seen in the case of the stomach. As regards the influence of the mind upon general nutrition, the facts are so notorious as hardly to require mention. Pleasant emotions, when not accompanied by excesses, promote nutrition, while disagreeable feelings, such as anxiety and protracted worry, often cause a rapid loss in weight, besides imparting the emaciated, haunted appearance to the physiognomy which bears such unmistakable evidence of the conflict within.

Such, then, are the more tangible effects of the psychical mechanism upon the physical economy; or, if a more technical statement be demanded, such are the effects of certain cortical states upon the remainder of the economy.

An analysis of these effects reveals, in the first place, the important fact that they are largely *evanescent* in character and liable to disappear with the cessation of the emotion or conception to which they owe their origin. The second important point to be borne in mind is the fact that the effects are *functional* in character and represent modifications in degree rather than in kind. These two facts taken together—to wit, the evanescence of mental effects upon the body *plus* their purely functional character—would of themselves lead us to the inference that changes in the tissues involving such immense perversions of histological processes as those seen in cancer and other neoplasms could not be alone attributed to mental influence. And in this inference we should without doubt be borne out by facts.

But if we can not produce tumors and other profound changes in healthy persons by acting upon their intellectual mechanism, how can it be supposed that we can remove such gigantic histological perversions, when they have once become established, simply by acting upon the patient's mind through the medium of suggestion and the expectant attention thereby engendered? The supposition is simply preposterous. But there are reasons other than a mere *reductio ad absurdum* why we must place the stamp of infamy and fraud upon the pretensions of the mind-healer *et hoc genus omne*. The most cogent of these reasons is the fact that not only during bygone centuries but throughout modern times up to the present day scientific physicians throughout the world have striven to act upon the minds of their patients suffering from incurable maladies, if for no other reason than to conceal the advent of death from the sufferer, with a view to postponing the agony of the spirit incident to protracted waiting for the inevitable end. While encouraging the patient by suggestion and arousing in him that hopefulness which is called expectant attention in the psychological jargon of our day, the ancient doctor, all unbeknown to himself perhaps, did more than mind-healer or other charlatan ever could, save that his actions were characterized by that scientific honesty which is the mark of the true physician. He made no false pretenses of imaginary cures. He informed friends and kindred of the inevitably fatal termination, and sought to postpone the end by every resource of surgery and medicine, meanwhile smoothing the pillow of the dying by fostering hope to the last.

Here we have a gigantic fund of experimental data ready at hand with which to disprove the fraudulent assertions of mind-healers that they are able to cure organic disease by the aid of mental influence alone. Disregarding all theoretic proof of the absurdity of their doctrines, we may content ourselves by simply stating that appeals have been made to the minds of those suffering from organic affections of all kinds for centuries without avail. It is true, as we have said, that such appeals were not those of the charlatan. The patient was not left to die without dietetic, medical, or surgical support like the unhappy victims of the modern mind-healer; but for this very reason the negative results are all the more decisive.

The mind-healer or faith-healer, then, is not an exponent of progress, but he is rather the disciple of decadence. He ignores the experience of the ages, and appeals to fallacies which have been disapproved millions of times by actual trial. He is the anarchist of science; to him what is is of no account whatever. Logic and scientific evidence he despises; but when his unutterable ignorance is revealed, his specious fallacies and paltry scientific usurpations laid bare, he appeals to religious doctrine, which he distorts and perverts to suit his own vile ends. His exploits in the last-named direction have been of such a character as to make all friends of true religion hide their faces. It is time that the Church should join hands with medicine in the eradication of this infamy; both are alike discredited by its continuance.

Let me once more repeat that, from the very beginning, the influence of the mind upon the body, and the applicability of the principle in the treatment of functional affections, and particularly in functional affections of nervous origin, have been perceived and recognized as a legitimate and valuable adjunct to the manifold resource of the scientific physician; it is only against the quixotic exaggeration of the principle that his protest is recorded. Herein lies the difference which must ever exist between the perversions of the ignorant, brazen humbug and the enlightened application of all legitimate means to the cure of disease, which is the prerogative of the conscientious doctor.

Seeing, then, that the influence of the mind upon bodily function as a therapeutic adjunct in certain affections, notably those of hypochondriacal, hysterical, and neurasthenic character, has been thoroughly recognized by the profession, there is every reason why the prerogative of exercising and deciding when such mental treatment is indicated should remain as it always has with the profession.

Some of the more cogent of these reasons may be summarized as follows: In the first place, the number of cases in which an exclusive reliance upon the curative potency of mental effects can be placed is so exceedingly limited that without a thorough acquaintance with pathology, diagnosis, and therapeutics it is impossible to accomplish much for the patient. Secondly, the most positive harm is liable to occur by a misuse of the method. A case in point was recently reported in one of the New York evening papers by Dr. Allan McLane Hamilton. The case in question was that of a lady who had suffered for many years from a spinal disease which interfered with locomotion. She was induced to consult a mind-healer, who told her to throw away her crutches and walk. With excessive faith she did throw away the crutches, but, to the consternation of all, she at once fell to the floor, sustaining a fracture of the thigh which led to her death a few weeks afterward. Another great danger is found in the propensity of these charlatans to season their quixotic philosophy with an ample proportion of religious superstition. As a result of this, the imagination of the patient is so unduly wrought upon as to imperil his sanity. I have a case of this kind under my care at present, in which hallucinations of hearing, insomnia, and morbid depression of a severe type have been developed by treatment at the hands of one of these fanatics. It is evident, therefore, that the faith-cure, mind-cure, and similar forms of charlatanism represent not only exaggerated forms of humbug, but positive danger to the community.

In combating these flagrant abuses, the enlightened press of the country can render the greater assistance. Substantial proof of this is afforded by an editorial of great ability which recently appeared in the "New York Commercial Advertiser." In concluding this excellent piece of writing the editor pertinently observed:

> "In this State we have a statute regulating the practice of medicine and intended to forbid such practice by any person not duly qualified. By reason of a technicality, this prohibition does not seem to apply to faith-healers, mind-curers, and Christian Scientists. It is high time that the statute should be so amended as to embrace these with other quacks."

I have quoted this editorial because it proves that an enlightened public opinion is with the profession on this question; and I may add that, from conversations which I have had with eminent clergymen, the profession may confidently reckon upon substantial support from that quarter. Shortly before leaving New York to attend the meeting of the State Society, I was informed by a medical gentleman from Boston that the question of invoking the aid of the Legislature for the suppression of the dangerous excesses of the faith-healers had been agitated by members of the Massachusetts Medical Society.

Whether the Legislature of the State of New York shall be petitioned for the same purpose remains for the profession to decide.

If I have rendered any service to my colleagues in the profession by a simple statement of the more prominent issues involved in this question, I shall feel quite satisfied.

# ANGULAR CURVATURE OF THE SPINE;

## *CHARACTERISTICS AND CAUSES.*

By GEORGE H. TAYLOR, M. D.

The difficulties presented by deformities characterized by a posterior convexity or angle of the spinal column are among the most perplexing and serious the physician encounters. The equivocal and, at best, imperfect results secured by remedies in this class of cases strongly suggest possible misapprehension touching their nature, and indicate the propriety of further inquiries. The struggle of therapeutists has generally been confined to the mechanical appearance or phase of the affection, and to adapt remedies to this outward manifestation. The constitutional side of the affection, the causes operating to deteriorate the nutritive processes through which all phases of vital existence are sustained, whether perfectly or imperfectly, have been sadly neglected. There are, therefore, room and need for further investigation. Let us hope, through inquiries into the fundamental nature and sources of affections of this general class, to bring to light remedial principles of some service to these unfortunate sufferers.

A proper understanding of angular curvature requires that the attention be first given to the more obvious and external features of the affection; that the connection of these with the more obscure concomitants be traced, and that the more tangible facts be so employed as to develop the hidden rational sources of this class of affections. In this way it is probable that the nature of the remedies required to cover the demands of these cases will be developed.

The morbidly changed exterior line of the spinal column is conceded to be due to alterations of shape of anatomical parts or segments, the vertebræ and intervertebral cartilages. These acquire a shape comparable to a wedge, the thinner part being forward. The inner portions of certain vertebræ become diminished in perpendicular measurement, while, for a time at least, the posterior portion remains of the original or proper thickness. The loss of vertebral substance at a restricted locality breaks the axial line of the column into upper and lower portions, which meet at the affected point. This gives the angle from which the affection is named, and affords the ordinary remedial indication.

The spinous process of this particular bone is, in consequence, thrust outward and backward, thus giving an exaggerated prominence to the angle and an unsightly form to the back. The breast bone curves forward, the shoulders are projected upward and the head sinks between them, the back bends sharply back, the ribs are displaced, the stature is shortened, while the limbs appear to have become disproportionately lengthened. The organs of the chest and of the abdomen are displaced by the invasion of these cavities by their exterior walls, often greatly to the disadvantage of their functions.

These mechanical consequences of vertebral disease appeal to the eye and to the understanding with such force and intensity as practically to obscure the reflective faculties of those most interested. The patient's friends are startled by a suspicion of prospective increase of size of the prominence, and of its possible permanent character, with the consequent restriction of physical power and deprivation of grace of form and of social advantages. The very existence of other factors than the mechanical is practically ignored in the concern felt for the latter.

There is usually a marked absence of pain or other symptoms demanding ordinary medicinal interference. The friends of the invalid are cognizant of the deviation of columnar form, and of little or nothing besides; the physician gives his sympathy, and this controls his action. The remedial requirements are considered only from a mechanical point of view. The column should be forcibly rectified and maintained for an uncertain period. To execute this purpose, mechanism is required similar to that demanded for straightening an obstinate inanimate object of similar form.

The circumstances which have contributed to restrict the conception of vertebral disease to its mere mechanical outcome, and the remedies, to those of a mechanical order, are many and various. The appetite appears to be good, and there is absence of acute manifestations. These facts are to most people positive evidences of good health, and this idea is therefore insisted on in spite of the evidence to the contrary afforded by another order of symptoms. Is not the body a plastic object, capable of being molded to a more desirable form? Will not even bones yield to sufficient prolonged mechanical force? Concealment of the obtrusive prominence is particularly desirable. This is secured by the covering afforded by an apparatus.

Practical medicine does not much encourage the study of fundamental principles; it seeks, rather, agreeable immediate consequences; it is too apt to sacrifice the future to the present. In this case visible, tangible consequences are just what would seem to be the promise of properly employed mechanical force through the medium of apparatus.

The outer or mechanical misshape of the spinal column, and the mechanism adapted to its rectification, appear to the physician questions quite distinct from medical considerations. Neither by nature, habit, experience, nor study has he the desirable degree of competency for dealing with mechanical problems. He therefore readily and unquestioningly consigns cases of irregularity of form to those professing themselves competent to deal with these cases promptly and thoroughly—the *orthopædic specialist.* The latter may be an excellent mechanical expert; he, in general, does not feel called upon to manifest remarkable competency in pathology and ætiology; he may not even be quite at home on very simple questions of physiology. Indeed, the ideal orthopædist seldom appears quite to know whether the realization of his endeavors would promote or supersede and stifle physiological activities and manifestations.

The function of the specialist is strictly limited to the exterior features of the case.

This lack of breadth of view of the specialist in angular curvature effectually conceals from him its most important part. He practically ignores the existence of a potential—an ætiological factor. Spite of observation and experience, he deems the mechanical problem, with the help of his favorite apparatus, an easy conquest, and he inspires his patrons with a similar confidence. By cautiously parrying too impertinent questions relating to physiology and ætiology, he is able to dominate his case for an indefinite period. It is too troublesome for persons engaged in the ordinary duties, pleasures, and ambitions of life to acquire correct knowledge of principles relating to their own physiological well-being.

*Mechanical Considerations Subordinate.*—The change of the exterior line of the spinal column to an abnormal form is not self-caused, spontaneous, or fortuitous. It is a result or product of adequate antecedent conditions or causes. Nothing else could happen under the circumstances. But the exterior appearance reveals nothing of the processes engaged in its production. Neither does the study of the mechanical principles of straightening cast a ray of light on its source, or afford any suggestion regarding the conditions which render its development impossible.

Injuries to the spinal column from mechanical causes have been said to produce local disease and deformity of the column. This cause has been so pertinaciously insisted on, especially by those in the interest of mechanical apparatus, as to demand examination. This statement results from an inadequate conception of the fundamental sources of the affection, for local injuries have little or no power to restrain the physiological physics which are the necessary precursors of vertebral disease and its effects on the shape of the column. Besides, injuries to this part of the organism are amenable to the same laws respecting reparation as are those of its other portions, the probability and the rapidity of the act depending on the general vital capacities and powers more than on its location. This statement is confirmed by experience, which shows that thousands of instances of recovery occur to one of deformity of the column after local injuries received by it. Instances are exceedingly rare in which the memory or actual knowledge are able to connect angular curvature with local injury in the relation of cause and effect.

It hence becomes evident that the mechanical view and estimate of the pathology of disease of the vertebræ and its consequences as revealed in the exterior form of the column are inadequate. They are too restricted to afford a practical basis for remedies. The mechanical considerations fail to include the dominating facts involved in these cases. They exclude the obscure antecedent processes, occurring locally, beneath the visible manifestation, and also those occurring throughout the general organism, through which the visible consequences are produced. The mechanical conception omits to provide for these potential antecedent morbid processes, but allows their uninterrupted continuance, content only to conceal the outward manifestation which depends thereon. Such measures are, in fact, well calculated to perpetuate indefinitely the deformity, because they serve to perpetuate its constantly operating causes.

Angular deformity of the column is therefore not only incorrectly understood, but the understanding is fraught with pernicious consequences, when regarded as a mere mechanical problem. The deformation is, in fact, but an outward expression of the morbid process from which it proceeds. No remedial means can be worthy the name which fails to consider the nature of its sources, and to apply the proper correction thereto.

*Rational Signs of Incipient Vertebral Disease.*—Probably no age or social condition is entirely exempt from liability to affections of the vertebræ which portend a morbid modification of form, but experience proves the far greater liability of children and youth. The contributive causes must exist in sufficient degree and for a sufficient period. The ordinary sufficiency of the automatic self-rectifying powers of the organism will then have become permanently impaired, and these powers will require assistance. The nature of these antecedent conditions will be explained further on. In more advanced life, however, the marked results become manifest, in general, in other ways.

A cursory mention of some of the less noticeable and often neglected evidences of approaching vertebral disease may be here made.

The subject usually manifests an irregular but frequently strong, even craving, appetite. This condition is often regarded as a natural and healthful need for food. On the contrary, this may be a consequence either of a morbid nervous irritability of the digestive organs due to the presence of undigested food, or from morbid and acrid digestive secretions, or from incipient decomposition of previous ingesta, or from a feeling of lack of strength, which is misinterpreted to indicate need of food, but which physiological facts show to be due to defective use by the functioning organs of nutritive material abundantly present. A proper study of the appetite in connection with the physiological activities may often afford a key to the pathological situation. The feeling of need of food is often kept up by habitual looseness of the bowels. This symptom requires, not restraint of the bowels, but such measures as insure the appropriation and consequent absorption of digestive aliment.

Subjects of vertebral disease prefer such kinds of food as possess piquancy or are highly sweetened or seasoned, or food in a fluid state. This is because the sense of taste, being blunted by foul secretions, is more readily excited by these qualities in food. The skin is ashen and dull, but in periods of excitement puts on an unwholesome temporary flush. The abdomen is tumid, soft, and doughy to the touch. The limbs are thin and unmuscular. In some cases an unnatural plumpness indicates sluggishness of vital processes and undue retention of residuals of nutrition.

A peculiar languor of temperament further characterizes persons thus affected. They manifest an indisposition to take the initiative, as though fettered both in will and in physical ability. The powers of the vital system evidently fail to properly support its expenditures. What does this imply? We shall see.

The most significant characteristic of the morbid conditions foreshadowing vertebral consequences is shown in the muscular department of the vital system. Whatever that appearance to the eye may be, the muscles are soft, flabby, shrunken, and feeble. They are defective in persistency or power of sustained action. There is a manifest tendency to a decline, rather than to a recuperation of power. Voluntary action is followed by depression and weakness, and rest fails to restore vigor.

The actual qualities of muscle are denoted by the energies they manifest. These are not obvious in a cursory physical examination. The real test of the physiological value of muscular tissues consists of the amount and degree of the service they render the vital organism, whether they perfectly or only imperfectly accomplish the tasks with which they are charged.

The influence of the muscles in the vital organism culminates, not in motor energy as such, nor in the transmission of motor impulses to exterior objects, but in the proper utilization by the vital system of the energy developed coincident therewith. The dynamic energy of muscles prevents the column from falling into angular and other curves, but the parallel function they exercise is equally indispensable. Mechanical substitutes are attempted for their mechanical function, but none are available or hardly thought of for their *chemical* function. The chemical phase of muscular energy engages the ingredients of the organism in their atomic character, and, like the motor phase, extends beyond the tissues immediately engaged. The chemical form of energy corresponds in scope and degree of intensity with the motor form, coincidently developed—that is, whenever motor manifestations are restricted and feeble, the chemical consequences, consisting in the preparation of organic matters for exit from the organisms, are insufficient and incomplete. These consequences are concealed from direct observation, but become manifest through accumulation by their tendency to assume morbid localized forms.

In these facts relating to degrees of preparation of products of vital expenditure lies the significance of muscular failure. Herein also lies the ill-recognized reason of the inadequacy and untrustworthiness of remedies which pay little respect to the unquestioned facts of physiology. The chemical phase of physiological activity is charged with the function and the power of preserving the vital integrity, through maintenance of the standard quality of the materials employed in its service, to the very point of their exit from the organism. By this chemistry of the organism its ingredients are constantly resolved into innocuous forms of matter. Through defect of this chemistry, the same ingredients *fail* of such resolution, vital control is lost or suspended, and organic ingredients assume *noxious* forms, become unsalutary, and react on the vital system in various ways known under the epithets applied to disease. Circumstances quite subordinate in character cause one or another local function or part to suffer more than others from the effects thus arising.

The special nature of the chemical insufficiency which predisposes to vertebral disease has been pointed out by the writer in previous essays. The reader is referred particularly to the works entitled "Mechanical Massage" and "Scrofula" for a further development of this subject. For the present purpose it will suffice to refer to the well-established principle of physiology that the vital economy employs oxygen for removing obstacles to vital sway. Insufficient and incomplete physiological oxidation gives rise to material obstacles—morbid matters—which are in physical and chemical opposition to vital purposes. Those ingredients which are most easily and rapidly oxidized disappear from the vital fluids, while the more resisting tend to accumulate therein, so that all parts of the organism may become replete with an injurious excess of a class of ingredients whose oxidation is tardy. This material is albuminous, and the fact of its presence in injurious excess is shown by local evidences, the tissues of the spine being sometimes the seat.

Now, the motions proceeding from the muscles have a potent influence in determining the relations of oxygen to organic substances. The motor energy expended in the vital system is turned by it to the account of its oxidizing function. When the muscular system is normally active its chemical functions are completed, expenditures and waste are normal, and no destructive residuals appear. When, however, the muscular powers are feeble, the oxidizing function becomes less searching, and certain portions of the albuminous contingent remain unchanged. The organism is habitually pervaded by unfunctioned material. Such material finds lodgment at such points and regions of the body as are, under the circumstances, most shielded from the physical causes which operate to urge the nutritive fluids along their natural courses.

Such parts of the body as possess the smallest and fewest blood-vessels, and such parts also as have the least advantage from motor impulses, become, for these reasons, locations favorable to blood stasis or hyperæmia. When blood, or fluids derived therefrom, is partly retained at points favorable thereto, its ingredients are also shielded from oxidation, and its less fluid portions tend to become localized and fixed. Such is the physical condition of the tissues of the spinal column when vertebral disease is imminent or present.

*Angular Curvature a Secondary Affection.*—The above exposition of the sources of vertebral affections shows them to be products arising from the union of several distinct factors or causes. These factors may be regarded as an orderly succession having mutual dependence, and may be either normal or abnormal. These factors also denote physiological stages in the career of the nutritive ingredients within the vital organism. By tracing the progress in a *reverse* order and noting the value of each stage, we may better understand the nature of the affection under examination.

1. The form. The exterior, visible, measurable shape of the spinal column is a consequence of the disposition of, or what occurs within its interior substance; the form does not control the columnar tissues, but is controlled by them.

Morbid form also relates to each dimension of the affected parts as well as the exterior and visible portion. The height, inclination, and stability of the spinal column depend on its vertebral and cartilaginous segments. The anatomical frame is also intimately related to these component parts, inasmuch as subsidence and deflection of the column derange the relations of parts sustained by the column. Osseous and cartilaginous misshape is therefore due to—

2. Local disease of vertebral tissues. The local morbid process occurring in the tissues of the column is of a nature which, under the circumstances, results in loss of substance or absorption. Solid matters of the column gradually disappear, allowing remaining portions to occupy less space, causing diminished length of column. This process begins in the anterior portions of the affected vertebræ and cartilages, thus causing the column to bend more or less sharply forward, and necessitating a posterior convexity or prominence proportionate to the absorption at the diseased parts. In advanced stages the whole column becomes shortened and the stature diminished. The diseases of the columnar tissues depend directly upon—

3. Local columnar hyperæmia or congestion. Blood and other fluids in excess and without motion are disposed to chemical changes of deterioration and the consequent development of obnoxious chemical products, thus displacing the physiological chemistry essential to health, both as relates to local fluids and the local tissues depending thereon. The health of columnar tissues is maintained by a free circulation of blood throughout their substance, conveying away all superfluous, waste, deteriorating matters, and resupplying the local tissues with oxygen and such materials as may be demanded by vital uses. The progressively morbid states supervening on hyperæmia or congestion of the column are due to—

4. Suspension of the elastic function of the spinal column. The circulation of the blood in the column by which its health is maintained is effected by the exercise of its elasticity and flexibility. By this means the fluids of the column are urged from it and fresh fluids drawn in—that is, the circulation and healthy nutrition of its tissues are maintained. In the absence of the exercise of its elasticity the fluids of the vertebral, cartilaginous, and other local tissues are indefinitely retained and exposed to spontaneous morbid changes. These local fluids necessarily become surcharged with unstable suboxides and strongly tend to resolution into simpler chemical forms of matter. Vertebral congestion and the restricted elasticity of columnar tissues which invite this condition are therefore due to—

5. Failure of the muscles on which elasticity of the column depends. The spinal, aided by other muscles, physiologically sustain the column in all its positions, and also effect all its changes of position and form. They thus become the indirect motor source of the spinal circulation. The mechanism of the column and its muscles has a fit resemblance to a pump in respect to the control of the fluids of its tissues. Defective power of the spinal muscles, and the liability of its more impervious tissues to become the seat of local disease, are due to—

6. Defective functioning of the general muscular system. A certain amount and intensity of muscular functioning are required to secure the necessary physiological degree of oxidation of the more resisting of the ingredients of the vital system. The final dismissal from the organism of materials designed for its uses depends on securing the proper degree of oxidation. The condition supervening on such failure is—

7. The continued retention by the organism of ingredients which become obstructive and noxious from insufficiency of the chemical physics of the vital system, prominent among which is a surplus of unfunctioned and unreduced albuminoids. These morbid ingredients become a

source of local vertebral disease when morbid consequences are favored by constitution, age, and circumstances enumerated in preceding paragraphs.

Angular curvature is, therefore, a malady as well as a deformity, and, from the nature of the malady and the circumstances under which it is developed, remedies applicable only to *one* of its consequences, the exterior form, can have no curative application to it. The potential disease is wholly unaffected by supports, appliances, and means adapted to rectify the axial line of the spinal column. Mechanical remedies have as little applicability to vertebral as to glandular, pulmonic, skin, and other expressions of essentially the same constitutional disorders. Were it possible, by some magic or means at present unknown, to transform the crooked and diseased spinal column to perfect health, the actual condition of the subject would be only momentarily benfited, so long as the series of causes above pointed out continue unrectified, since these are continuously reproducing the same consequences.

*The Testimony of Experience.*—The practical results of remedies based on an exclusive mechanical conception of angular deformity of the spinal column are far from satisfactory. At every hand one encounters *un*remedied examples of those who have made and are continuing the best possible use of the remedial principles which find expression in devices for mechanical support of the column. These results strongly imply that not only the therapeutic but also the orthopædic requirements are not covered by the remedy—that, in other words, the nature of these cases has failed to be fully comprehended, and that the treatment supplied for their relief has been inadequate, and to some extent probably misapplied.

The public and the physician have doubtless not infrequently been misled by the advocates and representatives of various competing mechanical instruments, whose claims are supported by abundance of written, verbal, and printed testimonies from respectable sources. This kind of testimony is incompetent and valueless, from the following considerations:

It relates not to the actual morbid process and its cure, but only to the *product* of the process, and to the transient form into which the column may possibly be forced by instruments.

It makes no pretense of either remedying or obviating the continuous reproduction of morbid states of which the exterior form is a consequence.

The testimony referred to is founded on incorrect assumptions; it compares cases not parallel. Different individuals afflicted with spinal deformity have vastly differing constitutions and capacities for recovering from the disease which is the cause of the deformity, both *without* remedies and under *different* remedial methods. These facts render nugatory the testimony favorable to special instrumental methods and processes.

There are many reasons why physicians encounter these cases of angular curvature with a feeling of dread, and are more than willing to surrender them to the tender mercies of the specialist. The latter professes superior acquaintance with their therapeutic needs; he is well provided with the costly mechanical facilities which he insists are essential; he is prepared to give his time to the interests of the case.

On the contrary, the ordinary physician has no facilities, no time for these exacting cases. His ordinary course of studies has led him into far different pathological fields; the practice demanded of him has familiarized him with radically different duties. By nature he may be unfitted for the pursuit of the searching inquiries necessary for a due working comprehension of the obscure pathology of these cases. Add to these considerations the vehement demands of parents and friends of the afflicted for *immediate visible* results of treatment, and their lack of comprehension of the medical side of the affection, and it is little wonder that physicians are inclined to consign these cases to specialists, and so escape certain responsibility and blame.

It is, however, due to say that an evident distrust of the instrumental method is prevailing and increasing among physicians, and a consequent corresponding increase of confidence is given to physiological methods, though the full meaning of the pathological condition which ushers in vertebral disease is probably less frequently apprehended. In evidence of this statement, reference may be made to a communication of Dr. Gibney (professor of orthopædic surgery in the New York Polyclinic) in a late number of the "New York Medical Journal." Dr. Gibney gives therein a detail of his personal experience in dealing with several cases of deformed spine. He also gives to a still larger extent the experience and methods of another surgeon working in the same field. The cases were treated *without* apparatus of any kind being worn by the patient. The method of procedure consisted mostly of special voluntary exercises, adapted to increase the power and development of special regions of the body supposed to be defective. The constitutional and the local effects of these procedures were increased by introducing the elements of *resistance* and *isolation*—that is, restriction of the action to local regions, and by intervals of time between the distinct processes. The results were commendable, although the processes chosen might have been better adapted to the condition, and the repertory was meager and restricted.

The specialists above referred to appear not to understand that the ideas and principles they adopted are quite as susceptible of adaptation to the most advanced and helpless instances of vertebral disease as to early stages of the affection.

The late Dr. Carnochan, who is well known to have had the clearest judgment in all matters surgical and orthopædic, and who had incomparable opportunities for experience required for perfecting the judgment, expressed to the present writer his conviction that no instrument worn upon the person was capable of either benefiting the health or of actually and permanently correcting the form of the spinal column, and that the use of all mechanical appliances involved practically a failure of their purposes.

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**The American Pharmaceutical Association** will hold its thirty-seventh annual meeting in San Francisco, on the 24th, 25th, 26th, 27th and 28th of June. Among the questions announced for consideration there are many that have an important bearing upon the work before the next Pharmacopœial Convention.

# THE PURULENT CONJUNCTIVITIS OF INFANTS, AND BLINDNESS IN NEW YORK STATE.*

By LUCIEN HOWE, M. R. C. S.,
BUFFALO.

I DESIRE to call the attention of the society to the following facts:

1. That there is in the State of New York, as in the United States, an apparently rapid increase in the number of blind.

2. That a very large proportion of blindness here, as elsewhere, is due to the purulent conjunctivitis of infants.

3. That by the use of methods already known this could be materially lessened.

4. In spite of that, no systematic effort is made to do so.

I propose in this paper to take up these different points as briefly as possible and in the order mentioned. When we compare the report of the United States Census of 1870 with the report of 1880, it appears that while the population increased during that decade at the rate of 30·09 per cent., the number of blind had increased 140·78 per cent. Such, in a word, are the figures concerning the increase in the entire country. As for the State of New York, more exact examination of the statistics is equally instructive.

According to the United States Census reports, the population of New York in 1870 was 4,302,759, and in 1880 it was 5,082,871, being an increase of 15·9 per cent.; whereas the number of blind in New York State in 1870 was 2,213, and in 1880 was 4,981, being an increase of 125·07 per cent.

In a similar way, if we compare the State Census of 1875 with the United States Census of 1880, we find the population in 1875 was 4,698,958, and in 1880 was 5,082,871, being an increase of 8·1 per cent.; while the number of blind in 1875 was 2,256, and in 1880 was 4,981, being an increase of 111·03 per cent.

In other words, official reports show that during the ten years preceding 1880 blindness in the State of New York increased eight and two tenths times as rapidly as the population, and during the last five years of that decade it increased thirteen and seven tenths times as rapidly. It is not improbable that there were imperfections in these statistics —the United States Census of 1880 being very complete, the others incomplete—but it is hardly possible that those differences in the manner of enumeration would account for more than a part of the increase as is here shown. And when the facts are taken up in detail and carefully weighed, one can not but arrive at the conclusion that certain causes have tended to produce an increase of blindness out of proportion to the increase in population, and much greater than there is any necessity for.

In the second place, I wish to show that one of the most important factors in the production of blindness is the ophthalmia of infants, or, as it is otherwise called, the purulent ophthalmia or purulent conjunctivitis of children, or ophthalmia neonatorum. In this country, unfortunately, very few systematic investigations have been made as yet into the causes of blindness. It is probable, however, that the same diseases here produce the same results as elsewhere, and there is no reason to suppose that there is any less proportion of the ophthalmia of infants in America than in Europe. For our present study, therefore, we are entirely warranted in drawing conclusions from data obtained there. On examining any statistics concerning the causes of blindness, the results found will vary somewhat according to the age of the individuals, certain diseases, like cataract, glaucoma, etc., belonging particularly to advanced life, and the one we are considering, of course, to early life. In a list of 2,528 blind *of all ages* collected by Magnus, it was found that the ophthalmia of infants was more destructive to vision than any other disease or form of accident, that causing 10·87 per cent. of the unfortunates. To appreciate its true importance, we should see how large a portion of the blindness among children is due to that disease.

Thus Fuchs found that among 3,204 cases of blindness collected from asylums in different parts of Europe, 23·5 per cent., or nearly a quarter of the entire number, are doomed to lifelong darkness because of the ophthalmia in infancy. In certain countries, where all the inmates of all asylums are counted together, the proportion who have become blind from this disease is found to be even a little greater; thus all the asylums in Switzerland gave 26·02, all the asylums in Germany gave 25·83, all the asylums in Austria-Hungary gave 20·47.* In order to ascertain in a similar manner the influence of this disease and others in the production of blindness in this State, I made, with the aid of my former assistant, Dr. Starr, an examination of the eyes of 128 inmates of the New York Institution for the Blind at Batavia, and found there also that the ophthalmia of infancy produces more havoc than any other disease—20·4 per cent. being caused by it.

Next I wish to call attention to the fact that a very safe, simple, and reliable method is now known by which this disease can be, to a great extent, prevented, and to show how decided would be the advantages if it were thoroughly employed. The figures which I have given in regard to the blindness caused by purulent ophthalmia of infants were collected from the examination of individuals born before Credé's method had come into use even in Europe. At that time a large proportion of eyes were annually sacrificed to the disease. As early as 1874 or 1875 various forms of disinfectants had been used as preventives, but in 1880 Credé first began his method of treatment. That consisted in a thorough cleansing of the eyes of the infant immediately after birth, and then applying a two-per-cent. solution of nitrate of silver. This is done only once, and in that consists the whole of the so-called "Credé's method." As for the reasons of this, from a bacteriological point of view, it is out of place here to go into any details except to mention that as this solution of silver removes the superficial layer of epithelial cells, it probably destroys at the same time any germs which may be in them. However that may be, as to how the nitrate of silver acts, there is, fortunately, no question as to the practical results. This has been determined by exactly recorded cases which can be counted now, not by tens or hundreds, but by thousands; not observed by one practitioner, but by many; and especially we have lists showing the effect of treatment without this method as well as with it. I need not take these up in detail, but simply give the summary.

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* Read before the Medical Society of the State of New York at its eighty-third annual meeting.

* Fuchs, *ibid.*, page 70.

The following table gives on the left side the names of six different obstetricians who used no treatment for the eyes of 8,793 children born in institutions of which they had charge or in private houses. Among these children there were 8·66 per cent. who had ophthalmia in a greater or less degree.

In another list I have placed the results obtained by four different observers who directed the treatment of 8,520 children with a two-per-cent. solution of nitrate of silver. In these cases there were only 0·65 per cent.

| AUTHORS. | WITHOUT ANY PRECAUTION. | | TWO-PER-CENT. SILVER NITRATE. | |
|---|---|---|---|---|
| | Total number of births. | Per cent. of ophthalmia of infants. | Total number of births. | Per cent. of ophthalmia of infants. |
| Olshausen | 550 | 12·5 | .... | ..... |
| Credé | 2,897 | 10·8 | 1,106 | 0·01–0·02 |
| Königstein | 1,092 | 4·8 | 1,250 | 0·7 |
| Krukenburg | 1,266 | 7·3 | 703 | 0·14 |
| Felsenreich | 1,887 | 4·3 | 3,000<br>2,100 | 1·9<br>1·0 |
| Bayer | 1,106 | 12·3 | 361 | ... |
| Total | 8,798 | .... | 8,520 | ... |

Average per cent. without any precaution, 8·66; average per cent. by Credé's method, 0·656.

If any further evidence were required to show the advantages of these steps for preventing the wholesale blinding of children, I would cite the example of certain governments in their enactment of laws requiring such precautions. These are referred to in Fuchs's "Verhütung der Blindheit."

In December of 1882 Austria recognized the advantages of Credé's method by its official recommendation to physicians in the state service, and, according to section seventh of the directions for nurses in Austria, every midwife is required to call a physician to the patient whenever she finds that the child under her care develops the ophthalmia of infants. The Hungarian Secretary of the Interior issued a pamphlet on the subject of the ophthalmia of infants, designed for distribution among all the nurses of the country. In Switzerland it is also obligatory upon them to give notice to the physician of the existence of any such disease. This was established as far back as 1865, and, according to Professor Horner, of Zurich, not a single case of blindness in an individual born since then had entered the large blind asylum in that city up to the time of his death. The Prussian regulations for nurses for 1878 give particular directions and instructions concerning this important point, and in the French official directions for 1880 a note was inserted also calling attention to it.

In view of this, we may ask ourselves what has been done or what is being done in the country, or particularly in the State of New York, for the prevention of this disease? The answer to this question can be brief: By individual effort, very little; by combined effort or by the State, absolutely nothing. And yet the same reasons exist in a manifold stronger degree why the same plan should be adopted in this country—why practitioners here should take advantage of the means already at their command for lessening the effects of this terrible scourge.

I think we are safe in speaking of blindness as a scourge, no matter from what standpoint it is viewed, whether of the economist or of the philanthropist.

From the report of the committee to which I have referred, it will be seen that the blind cost the State of New York, directly and indirectly, each year, considerably over a million and a half of dollars, or exactly $1,791,169; and as it is safe to say that at least one fifth of the cases are due to ophthalmia of infants, we can consider at a moderate estimate that simply the effects of this disease cost New York State three hundred thousand dollars every year.

If any mother were to decide the question for her child between lifelong blindness and death, she would in most cases prefer the latter. Now, if a remedy were known whereby the death-rate of those who suffer from a certain disease could be lessened 20 or 25 per cent., there is no question but that physicians would avail themselves of it immediately. I do not make a plea for Credé's method as the only one; it is possible that in a short time some still better treatment may be found. But I do say that as long as there is such a means of preventing misery at our command, and one which can be so simply and efficaciously employed, it is next to criminal negligence for any practitioner to omit the use of nitrate of silver in every case without exception which he attends. Perhaps there are those who think such a rule very good for obstetricians in charge of large institutions but unnecessary in private practice, surely not for those whose patients are scattered over a large territory. It must be remembered, however, that only a very small part of the births occur in institutions, and the profession is quite as responsible for the health of patients outside of such places as it is for those inside. There are other practitioners, men of keen perception and large experience, who have told me that they could not believe that the ophthalmia of infants was so frequent. In a country practice extending over a considerable territory they see such cases only at rare intervals. It is true we are often surprised at the aggregate when the separate parts seem small. But if the mother and child are at a distance, the physician may frequently have ceased his visits. When the disease in the child's eyes begins to make its appearance, the nurse imagines she can take charge of the rest, and the physician may not hear of the child again until blindness occurs. In just such a practice should Credé's precaution be the invariable rule, and the necessity of it is shown by the fact that, as a rule, even more blindness exists in the sparsely settled counties than near the large cities in this State. There it is that the nurses have full control at an early stage of the affection. In view of these facts, I think it proper to submit the following as the course which we should pursue in combating the disease and attempting to lessen its effects:

First. To call the attention of the profession in general to the apparent increase of blindness in this State and in the United States, to the importance of the ophthalmia of infants, and to the efficacy of proper means for preventing it.

Second. To request the examiners of nurses and midwives to require of the candidates some knowledge of this danger to the eyes of infants, and an acquaintance with the methods which are now in use for obviating it.

Third. To instruct our committee on legislation to formulate and recommend the passage of a law by which all midwives in this State shall be obliged to report the existence of any case of ophthalmia of infants within twenty-four hours after its occurrence to the family physician, to the district physician, or to some legally qualified practitioner.

## AN ANENCEPHALIC FŒTUS.*

By J. MILTON MABBOTT, M. D.,
RESIDENT PHYSICIAN, NURSERY AND CHILD'S HOSPITAL, NEW YORK.

The specimen which I have the privilege of presenting before the Section this evening is an anencephalic fœtus, delivered at the Nursery and Child's Hospital, January 30, 1889, in the service of Dr. J. J. Hull. The monstrosity is not of extremely infrequent occurrence, but I trust that the following rather full notes of the case will be of interest:

Mrs. L. P., aged twenty-six years, Swede, was admitted to hospital December 6, 1888. There is no family history of imbecility or monstrosities.

She bore a child at full term on August 4, 1886, ten months after marriage. She was still nursing this child when she again became pregnant about April 25, 1888. During lactation she had suffered from alopecia areata. The hair has since grown again evenly, but much less thickly than before. She thought she might have contracted some disease from her husband, but she presented no further symptoms, and had no other reason for suspecting him of being syphilitic. He had suffered from a severe sunstroke in July, 1884, and heat-prostration each summer since. Finally, during the last four months before Mrs. P.'s admission to hospital, her husband, for the first time, had experienced three severe epileptiform attacks.

About the middle of pregnancy Mrs. P. received a strong mental impression from meeting a man on the street several times who had a hideous disfigurement of the left side of his face, due to some kind of tumor. This and her husband's epilepsy had made her very fearful that she would "mark" her child. She is of nervous temperament, anæmic, and rather poorly nourished.

On examination, December 7, 1888, when about seven months and a half pregnant, it was noted that abdominal palpation indicated an R. O. A. position of the fœtus; fœtal pulse 144, heard loudest in hypogastric and right inguinal regions of maternal abdomen; and no abnormity was appreciated. Labor-pains supervened at full term, January 29, 1889, but the patient did not call attention to them until about 8 A. M., January 30th. A vaginal examination was then made by the nurse, who reported that the woman was in labor. The nurse afterward stated that she had suspected that there would be something unusual about the case, as she had noticed that the fœtus "would spring to the touch" in a peculiar way—a statement which I consider of special interest, as it not only illustrates the symptom of convulsive movements which Charpentier describes in these cases, but also indicates that the fœtus was alive until after the first examination was made during labor. The membranes ruptured shortly after this examination, and an excessive quantity of amniotic fluid escaped.

On examination, about 9.30 A. M., I found the patient near the end of the first stage of labor, and the presence of a monstrosity was at once recognized. The presenting part was easily within reach of the examining fingers, the cervix uteri being almost completely dilated, and the lowest part of the fœtus at the level of the middle plane of the pelvis. The part situated centrally in the vagina was that portion of the head just above and between the orbits and above the root of the nose. The orbits, eyelids, nose, mouth, and gums were successively recognized, and the lower border of the inferior maxilla could just be reached by the ends of the examining fingers. Both ears could be felt and recognized laterally. On passing the examining fingers from the root of the fœtal nose anteriorly toward the maternal pubic symphysis, the scalp covering the forehead could be felt to terminate about an inch above the orbital arches, and beyond this there was a feeling to the finger of the surface of flattened diminutive cranial bones, very thinly covered (to a thickness appreciated as being about a sixteenth of an inch) with a slightly uneven layer of connective tissue, presenting a smooth membranous surface, not cutaneous. The bony resistance terminated about an inch from the termination of the scalp, or two inches above and posterior to the upper margins of the orbits, in a rough, uneven border, somewhat concave from side to side, and beyond this the finger detected a large opening in the cranium, due to the absence of a large portion of the calvarium.

During the foregoing examination the fœtal heart-sounds had been carefully listened for without success, and, as no spontaneous movements of the fœtus had been recognized after the examination by the nurse, above recorded, the life of the fœtus was considered extinct at the commencement of the second stage of labor. My examination was confirmed before the birth of the child by my assistant, Dr. Bratenahl, and by Dr. I. H. Hance, to whom I had sent a note inviting him to see the case.

When the head was in sight at the vulva it became possible to feel the left scapula of the fœtus, the shoulders being situated almost laterally in the vagina, the left somewhat posterior to the right. Descent was slow in the second stage of labor on account of the resistance offered to the comparatively large dimensions of the shoulders, the passage not having been sufficiently dilated by the anencephalic head. Digital traction was therefore made in the left axilla, aided at the same time by pressure upon the fundus uteri through the abdominal wall by an assistant. The left shoulder rotated posteriorly and was delivered first, while the right engaged under the symphysis pubis. The rest of the body followed without difficulty. The duration of the second stage of labor was two hours and ten minutes, and the third stage was normal and of twelve minutes' duration. The fœtus was still-born and weighed 6 lbs. 7 oz. The placenta was rather dry and fibrous, but practically normal.

## THE ANTROPHORE.

By M. NEUMANN, M. D.,
SAN FRANCISCO.

Gonorrhœa and its treatment have been a source of annoyance for many years, and it is only now (that is, in my opinion) that we have in the antrophore a specific for all stages of this common complaint.

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* Read before the Section in Obstetrics and Gynæcology of the New York Academy of Medicine, February 28, 1889.

For the benefit of those physicians to whom the antrophore is unknown as yet I shall give a brief explanation of it, and cite a few of the many cases where it has proved so satisfactory that I feel it incumbent upon me to inform the medical profession of its merits.

The term antrophore is derived from ἄντρον, meaning "a cavity," and φορεῖν, "to carry"—a carrier into a cavity, or a contrivance to convey medicaments in soluble form into canals like the male urethra, the rectum, the vagina, etc.

The instrument consists of a spiral or skeleton made of closely wound wire of tube shape and covered with a thin film of rubber and shellac to prevent oxidation and the corrosive action of chemicals. They are coated with various remedies dissolved in a compound of gelatin and glycerin combined in such proportions as to melt at blood heat in from ten to thirty minutes. The spiral while remaining in the cavity or being withdrawn is entirely unproductive of pain.

Case I.—D. D. called on me, afflicted with acute gonorrhœa in its severest form, with a beginning bubo and paraphimosis. I attended to both with the usual remedies. I gave him large doses of citrate of potassium in solution for a few days until the acute inflammation and pain had somewhat subsided. On the fourth day I gave him the antrophore, No. 24 (containing 2 per cent. of thalline sulphate), one to be used morning and evening for three days, and allowed it to remain in half an hour.

On the seventh day I gave him No. 23 (containing 5 per cent. of thalline), one to be used on going to bed, allowing it to remain half an hour.

On the ninth day the discharge was very thin and watery and greatly decreased.

On the tenth day I still continued No. 23, and there was but little discharge.

On the thirteenth day there was very little to be seen.

On the fifteenth day, still using No. 23, there was little or no discharge.

On the seventeenth day he was entirely cured.

Case II.—Mr. S., subacute gonorrhœa. Contracted it thirteen days prior to coming to my office. Had used internal remedies and Guyon's injector, but he said when I saw him that he was "worse now than when he first got the 'clap.'"

I immediately gave him No. 13 (containing zinc acetate, gr. ⅛; lead acetate, gr. j). He used one each evening upon going to bed. After using four, gave him No. 14 (containing lead acetate, gr. ij; zinc acetate, gr. ¼). He continued using these for about two weeks, when the discharge was thoroughly dried up. Still I had him continue using them a few days in order to prevent a relapse; and now, after three months, he has never noticed any, nor the slightest signs of it.

Case III.—N. R., chronic gonorrhœa of five weeks' duration. He had been taking internal remedies until his entire stomach (as he expressed it) was upset, and had loss of appetite. His friends "scented" what he had from the medicines he took through the mouth. He had also injected various solutions three times daily for four weeks with but little improvement.

I began with No. 9 (containing silver nitrate, gr. $\frac{1}{16}$), one each evening (invariably keeping them in half an hour) for three days. Then used No. 10 (containing silver nitrate, gr. ⅛). Continued this treatment for fourteen days, he only having used fourteen antrophores, when I discharged him cured.

Case IV.—C. B. had had a gleet for three years; had tried all kinds of suppositories and sounds for two years. Then tried internal remedies with no improvement. Accidentally he came to me, and upon examination I found a small stricture. I began using sounds, and inserted immediately after No. 3 (8½-inch, containing iodoform, gr. iij). Allowing him to remain quiet on my lounge for half an hour, I used one each day for a week. The second week I used sound but twice, but gave him No. 3, to use one each night upon going to bed. The third week he was very nearly cured, but continued with No. 26 (containing iodoform, gr. iij, and ichthyol, 2½ per cent.). At the end of the third week I noticed no more discharge. The fourth week he used one each second night, and at the end of that week the gleety discharge had entirely disappeared, but the treatment was still continued a week longer. After a year Mr. B. tells me "he never noticed any more discharge."

Case V.—Mr. Y. had a gleet of ten years' standing. With the aid of the endoscope I noticed granulations. He had been treated with the use of the endoscope for a long while, but with no benefit. I began with No. 10½ (8½-inch, containing 2 per cent. of silver nitrate), using one every other night, and at the end of the first week I noticed that the granulations had disappeared, but still the discharge continued. Using a bougie, I found a stricture, very deep-seated and of small caliber. I treated him twice a week with sounds and No. 10½ (8½-inch), every other night for two weeks, with great improvement. Then used a 4-per-cent. silver nitrate antrophore for a week every other night, and after using four he was entirely cured.

Case VI.—Mr. S., chronic prostatitis. Began with No. 25 (8½-inch, containing ichthyol, 10 per cent.), one each evening for a week. At the beginning of the second week I noticed some improvement, and had him continue using the same. The third week I gave him No. 26 (containing iodoform, 8 per cent.; ichthyol, 2½ per cent.). At the end of this week he was free from all trouble.

I have also tried the antrophore in impotence and spermatorrhœa with very good results.

To recapitulate: 1. The antrophore is flexible and readily soluble. 2. It enters the urethra or any cavity very easily. 3. In most cases but one a day is needed. 4. Nothing unpleasant ever follows from their use, as from that of suppositories and injections (cystitis, orchitis, etc.). 5. It is not necessary to use internal remedies.

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**Anthrax at Horsehair Factories.**—"An inquest was lately held at Sudbury, Suffolk," says the "Lancet," "on the body of a horsehair dresser of Long Melford, who had died at the Sudbury Hospital. From the evidence it seems that the deceased first fell ill on February 9th, and that on the 11th he complained of a pimple on the back of the neck near the left ear. Next day it was more inflamed, but he persisted in going to work, and did not consult a doctor until the 15th, when he was seen by Mr. Horsford, who forthwith sent him to Dr. Holden at Sudbury, by whom he was admitted into hospital, and shortly after Dr. Holden excised the malignant pustule. The excision was, however, too late to avert death, which took place early on the 17th, just about a week after the patient first complained of feeling ill. Dr. Holden testified that death was due to anthrax, and stated that this was the fourth case which has occurred in the district during the last two years in connection with horsehair factories. This is important testimony, and demonstrates the need of inquiry into the conditions and nature of the work at such factories, which might profitably be undertaken by the Local Government Board."

**The Diagnosis of Hernia.**—"Dr. Multanovski suggests the addition of a new diagnostic sign to the classical method of diagnosticating abdominal hernia. Having made observations on one hundred and fifty-two cases of hernia in Professor Bogdanovski's wards, he states that in all these, when the finger was passed up into the abdomen, a more or less tightly stretched strap-like band could be detected connecting the contents of the sac with those of the abdomen."—*Lancet.*

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## THE SUNDAY NEWSPAPER AND THE PHYSICIAN.

Not long since the *anathema maranatha* of a certain eminent divine was launched at the Sunday newspaper. It was denounced from the pulpit as a literary Antichrist, and at its door was laid the blame for the heterodoxy of the masses. But, with due respect to the opinion of the reverend gentleman, we must not forget that every question is equipped with an outfit of at least two sides, and, as the medical profession is interested in one of these, it may not be amiss for us to espouse the cause of the denounced journals, although we have no desire to come into collision with the clergy. We have nothing to offer as to the allegation of the scribes to the effect that the philippic mentioned was but a resurrection of the old ecclesiastical intolerance of anything which contributes to human pleasure or liberal education—that it was of the Rip Van Winkle type of dogma and had missed its train by a few centuries—but will simply endeavor to state the subject from the physician's standpoint.

Throughout Christendom Sunday is regarded as a day of rest, and this opinion is fostered and encouraged by the clergy. But Sunday is the clergyman's busy day, on which he earns his salary, and the chief day of the week on which one could not in justice refer him to the model of industry and virtue presented by the habits of life followed by the common pismire as worthy of his emulation. Now, does the pastor spend his less busy days in the study of "Barnes's Notes" or discard his "Pigs in Clover" for the mental relaxation of an attempt to disentangle the reticulated syntax of "Butler's Analogy"? Does he not read his morning paper, which represents the breaking of an entire Sunday afternoon and evening on the part of a large number of men, and even feel piqued if the report of his own discourse is meager or lacking? In case his Saturday dinner had been inconsiderate enough to have assumed the rôle of Ghost to his Richard, so that it sat heavily on his soul on the morrow, he would be filled with righteous wrath if his physician should refuse his aid on the ground that Sunday was the only time he had for the improvement of his mind, and that he answered no calls on that day. The defender of the Faith does not appreciate the fact that he denounces the practice he himself follows on his day of rest when he arraigns his flock for Sunday newspaper reading—the avoidance of the care or suggestion even of business—but says that all must occupy themselves with the things that constitute his heaviest labor, and not only that, but must do nothing else. If such views were advanced by any other professional man, should we not consider it in the light of an unconscionable lusting after the possession of the solar system?

But the Sunday newspaper is of such catholic character that it broadens the minds of all classes of men. Take the physician as an example. He has finished his week's work, and resolves to pass Sunday afternoon in company with himself and his own time. His soul loathes the very thought of medical literature, and he yearns for some mild, gentle literary hypnotic. As he reads his paper a feeling of placid comfort and perfect peace steals over his mind by virtue of the history of the Kentucky vendetta, or the private laundry-list of some family high in the social scale. He absorbs medical lore in spite of himself from those encyclopædic columns, but this is so artificially illuminated by the sparkling radiance emanating from the glittering generalities with which it is accompanied, that he is all unconscious of his acquisition until after it has been recorded upon the "tablets of his mind." The familiar technical terms masquerade in fantastic garb after they have enjoyed a season of social communion with other verbal *bric-à-brac* resident in the mind editorial, and he has ingested the recorded fact before he has resolved the first anagram into its rational formula. The Sunday newspaper, then, permits the physician to study and relax his mental tension at the same time.

If he is convinced, on the other hand, by the arguments against the paper, how different the result! His weary brain yearns not for exercise, and consequently he does not feel equal to the mental effort required in the study of the Bible or of theological works. He is, therefore, perforce driven to the perusal of some secular work or of the religious periodical. He may choose the latter, and is straightway beguiled into reading a florid eulogy of some patent medicine. Visions of the vendors thereof in the act of abstracting the bread from the very mouths of his rapidly emaciating children rise up unbidden before his eyes, and soon such a phantasmagoria induces a marked discord in the symphony of mind and soul which his pastor would scarcely regard as increasing his receptivity of spiritual pabulum, or as being in strictly "good form" for a Sunday-afternoon inspection of one's personal moral accoutrements. In the case of the physician it is certain that the religious newspaper is distinctly contra-indicated.

But the quack advertisements in the secular journal do not disturb him, for he expects to see them, and is skilled in the art of recognizing them in any disguise. Instead of goading him into a furious delirium of profanity and implacable malevolence, the paper gradually soothes his spirit until he falls into a luxurious lotus-eater's day-dream; his cynical contempt for the vanities of social life gives place to a broad philanthropy as he reads of the "delicate surgical operation known as skin grafting"; his childhood's innocence and faith again animate his mind as he reads of the infant on whose integument is frescoed in capillary arabesques a schematic map of some incident which had excited the intense interest of its maternal source during the early months of its fœtal existence; his agnostic creed or atheistic materialism is as chaff before the hurricane of conviction produced by the history of the bedridden female whose pallid lips had parted for the entrance of nourishment but once in twenty years, and whose soul was a victim to the habit of periodical journeyings to alleged supernal receptions, leaving behind the body, care, and appetite of this life, but who nimbly vaulted over a barbed-wire fence five minutes subsequent to the process of "laying on of hands," engineered by a faith-cure apostle, and who ran down a predatory jack rabbit within the next four seconds and a half, establishing a record.

But the Sunday paper adds to its moral influence much valuable scientific information. The physician can not glean from the entire literature of his profession nor from any personal experience what he may acquire in a single afternoon by the aid of his Sunday paper. From no other source could he learn of the analgesic small boy and of the magnetic maiden. He would still, but for his paper, be wofully ignorant of the facts relating to the hosts of animate pathological cryptogams which medical science, despite the golden lure of untold wealth to spur on its efforts, has been forced to admit to be beyond its ken. The practitioner whose professional escutcheon is quartered with no bar-sinister arms of a medical Alma Mater, and who has never answered to the charge of carrying a concealed diploma, is not given to reporting the histories of his cases in the medical journals. He reverently enshrines in a fruit-jar the reptile which he has enticed from its comfortable home in the stomach of the unimaginative society queen, who had informally drank from a mountain rill without the use of the customary utensil while honoring with her presence a select camp-meeting a few years previous, and he tells no man other than a reporter of the matter. A wealth of clinical information is thus given to the medical profession, and thereby a residence at the very outposts of civilization is not made essential to the acquisition of a complete experience as to pathological vagaries.

One more reason why the physician should be allowed his Sunday newspaper is because of the broad field for mental exercise of a gentle nature afforded by its contents. The medical reader can dreamily speculate on the why and wherefore of the curious psychical abnormity that impels the journalist to adopt a medical technology governed only by laws revealed by the light of nature, in both its orthography and its lexicology. The reporter rarely stumbles when he saunters through the etymological mazes of the labyrinthine and pranksome Latinity of the law, and has no serious misunderstanding with the staid Hebrew and Greek roots which ramify through the nomenclature of theology and relieve the monotonous invariability of the laws formulated by physical and chemical science. But he shakes up a limited vocabulary of medical terms in a hat and impartially draws out a sufficient number of them as occasion may demand. The reportorial head would fall into the basket if he should hand in an account of the judicial ablation of a malignant tort from the inchoate right of dower of a feme-covert, or assign an ingrowing assymptote as the cause of the isomeric henotheism and failure of a synthetical analysis; but he would receive an increase of salary for "beating" his fellow reporters by the report of the details of a kelotomy for the removal of the semilunar cartilages from the semicircular canals of some eminent man, or a cheerful description of a gastrostomy for the purpose of ascertaining the situation of a serous fibroma of the fourth ventricle, especially if he had spelled serous with an "i." This metaphysical problem is the last thought of which the physician is conscious, and the call to prepare for dinner finds him refreshed and ready, perhaps, to attend divine service in the evening. Nay, forbid not the physician to read his Sunday paper, for it serves to make him wise, kind, and tolerant of the shortcomings of his fellows.

## THE PRANKS OF A DRUG.

We admire the pluck shown by Dr. D. W. Prentiss, of Washington, in reporting another case in which the administration of jaborandi has been followed by a change in the color of the hair, for his previous publication of an instance of the sort brought down upon him an amount of correspondence that would have deterred any ordinary man from returning to the subject. The doctor reported his first case in the "Philadelphia Medical Times" for July 2, 1881. It was that of a lady, twenty-five years old, whose hair was of a pronounced blonde. She was affected with pyelonephritis with anuria of unusual duration and uræmic symptoms. There was continuous total anuria for eleven days, with constant vomiting, severe headache, sleeplessness, confusion of vision, delirium, and muscular twitchings, and convulsions seemed to be impending. Hot baths and packs having failed to give rise to sweating, pilocarpine was used subcutaneously, and promptly caused profuse sweating and salivation, with complete abatement of the uræmic symptoms. Between the 16th of December and the 22d of February, twenty-two injections of pilocarpine hydrochloride were given, from thirty-five to forty centigrammes of the drug being employed—about six grains. But the lady's relief from her kidney symptoms was not the only result; her hair was found to be chestnut-brown in January and almost pure black by the 1st of May, while its growth was more vigorous and the individual hairs were thicker. Dr. Prentiss adds that her hair has now, in 1889, become dark brown. There were some incredulous readers of Dr. Prentiss's narrative, and one critic publicly stated that the lady must have been in the habit of bleaching her hair, and that the occurrence of its assuming a dark hue must have been only the natural return to its original hue on the enforced discontinuance of the habit; but again, in the "Therapeutic Gazette" for April, Dr. Prentiss affirms the correctness of all his previous statements, and says that the facts are known to scores of persons in Washington, and are entirely beyond question. But the report of the case met with general belief, and numerous letters about it were received by the doctor, from all parts of the country and from abroad. One correspondent, writing from London, England, was evidently more credulous of the doctor's statements than of his willingness to respond to his request, for he inclosed one half of a two-dollar bill, and promised to send the other half on receipt of the formula. A hair-dresser of Geneva, Switzerland, offered a partnership, with a division of the profits. Most of the inquiries, however, came from the gray-headed and bald-headed, and it is to be surmised that they had their trouble for their pains.

In his last communication Dr. Prentiss speaks of a similar occurrence, alleged to have taken place in France, which, but for its probable fictitiousness, might serve as a precedent in cases of legal complications arising from mistaken identity consequent on a change in the color of the hair produced by pilocarpine. The story was that a sea captain, having married a young blonde, went to sea leaving his bride behind; that during the husband's absence the lady had kidney trouble and was treated with pilocarpine, with the result of turning her hair and eyebrows black and adorning her with a pronounced mustache; and that, when she went to join her husband in Egypt, he repelled her, so that she was obliged to resort to legal measures to establish her identity. There is a flavor of salt water, not to say "marines," about this tale, and we are not surprised that Dr. Prentiss's diligent search for a report of the judicial proceedings in the case has led him to regard it as the figment of a certain wayward person who, after having published it in a New York Sunday newspaper, incontinently fled to Chicago and has not since been heard from.

Dr. Prentiss's second case—the one that serves as the text for his article in the "Therapeutic Gazette"—was that of an elderly lady with Bright's disease, for whom fluid extract of jaborandi was prescribed for the relief of itching. Her hair had before been of a uniform silvery-white, but dark patches began to appear in it, and at the time of her death it showed black tufts and her eyebrows had grown quite black.

It is evident that this effect of jaborandi is exceptional, but it may not be amiss to bear the possibility in mind when occasion seems to arise for prescribing the drug in the case of blondes.

## *MINOR PARAGRAPHS.*

### THE POTATO CURE.

This is limited in its scope, being recommended, so far as we know, only for persons who have swallowed foreign bodies. It is known as Cameron's method of treatment. In some respects it is probably to be preferred to the use of a cheese diet. In a case in which it was lately employed by Dr. Deichmüller, as we learn from the "Deutsche Medizinal-Zeitung," the potatoes were given in the form of a purée to a child who had swallowed a pin. The pin was voided on the fifteenth day, imbedded in a fæcal mass.

### THE CLAVICLE BANDAGE FOR FRACTURE OF THE SCAPULA.

In the third of his series of articles on "The Surgery of the Upper Extremities," published in the "Buffalo Medical and Surgical Journal" for April, Dr. Edward M. Moore, of Rochester, gives an outline of the history of a case of transverse fracture of the scapula below the spine, in which his "figure-of-eight-from-the-elbow" clavicle bandage gave immediate relief from severe pain, and its use resulted in prompt and perfect recovery. By pressing the humerus backward it slides the scapula around on the thorax and brings it into close contact with it, thus affording splint-like support of a natural kind. Moreover, it relaxes the teres major, the muscle that has the most powerful tendency to separate the fragments. The use of the same bandage has been followed by good results also in cases of fracture of the neck of the scapula.

### THE NORMAL POSTURE FOR A WOMAN IN LABOR.

According to Dr. A. F. A. King, of Washington, who contributes an interesting article on this subject to the April number of the "American Journal of Obstetrics and Diseases of Women and Children," the question "What is the Normal Posture for a Parturient Woman?" admits of little more discussion than the topic of the famous chapter "On Snakes in Iceland." In other words, Dr. King maintains—with perfect justification, we think—that there is no one posture that can be called normal for a woman in labor. He favors a change of posture from time to time, as may be indicated by an instinctive desire for it, by an arrest of the process of labor, or by emotional discontent, peevishness, or despair.

### MUNICIPAL APPRECIATION OF MEDICAL SERVICES.

It is unfortunately not often that a municipality sets a just estimate upon medical services for which it is called upon to pay. A commendable example in this respect has been set by the Municipal Assembly of St. Louis in voting an appropriation of $500 to Dr. A. C. Bernays for attendance on a member of the police force who had been injured in the discharge of his duty. We learn that the case was one of gunshot wound of the abdomen involving the stomach, the duodenum, and the jejunum, and that immediate laparotomy was performed with perfect success.

### GERMAN SURGICAL ASPIRATIONS.

According to a dispatch to the "Staats-Zeitung," Dr. von Bergmann said, on the occasion of the opening of a congress of surgeons: "Although the privilege of ministering to the ailments of their Emperor was denied the German surgeons, they nevertheless will continue to strive to attain the highest pinnacle of usefulness in their professional capacity, so that out of that era of trial and sorrow there may spring forth a time of blessing and joy."

### AN UNUSUAL FŒTAL PRESENTATION.

At a recent meeting of the Philadelphia County Medical Society, Dr. E. P. Bernardy showed a child that had been expelled with both shoulders presenting, the neck being somewhat stretched and thrown forward on to the chest, and the head, slightly twisted to one side, lying in a depression of the chest, between the arms. The process of parturition was described as having been accompanied with hardly any pain, although the mother was a primipara only eighteen years old, and during the early part of labor the soft parts were very rigid. When Dr. Bernardy first saw her, the membranes had been ruptured four hours; the fœtus occupied the right oblique diameter; the presenting part seemed to be the breech, with the right side deeper in the pelvic cavity than the left; the fingers could be hooked into what appeared to be the groin, but did not perceive the full feeling of a breech; there was a sort of sulcus or fissure in the center of the presenting part. External palpation showed the uterus divided into two parts by a deep indentation, a large body occupying the upper left portion, and a body occupying the lower portion of the right side, and this state of things gave rise to the impression at first that the case was one of twin gestation.

## THE INFLUENCE OF THE MIND UPON THE BODY.

In his article upon "The Limitations of the Influence of the Mind upon the Body," published in this issue, Dr. J. Leonard Corning seems to us to have considered the principles underlying psycho-therapeutics in a spirit of perfect candor. While admitting the purely functional modifications that may often be produced by a powerful appeal to the patient's imagination, by the aid of suggestion, and by the induction of a condition of fixed expectancy, he is careful to point out that in the majority of instances the effects thus induced are evanescent in character and can not be depended upon to effect a permanent abatement of symptoms. As for the pretense put forward by charlatans that organic maladies are to be cured in this manner, he justly observes that the accumulated evidence in the hands of the medical profession entirely disproves such a preposterous assumption. His proposition to confer the prerogative of employing psycho-therapeutics exclusively upon physicians must commend itself to all enlightened persons, in view of the outrageous abuses that have characterized the operations of "mind-healers," "faith-healers," and other charlatans. Should the consideration that this question is now receiving at the hands of physicians and prominent churchmen result in legislative abatement of the evil, the interests of the community at large could not fail to be advanced materially.

## THE MEDICAL SERVICE ASSOCIATION.

This is the corporate title of a Brooklyn society having for its object to secure to persons of moderate income medical attention and supplies on a mutual or co-operative basis. The capital stock is placed at $5,000, divided into five hundred shares at $10 each. One gratifying feature about this and other similar organizations is the fact that there is a recognition that medical services and care have a real value to their members, so that, while the latter seek to pay only the minimum of the physician's due, they are willing to pay something. The objectionable feature is that persons able to pay ordinary fees are usually admitted to membership, and, although paying but a tithe of what they ought to pay, put on an offensive air of determination to get the utmost possible amount of service—a determination in which they are only too apt to succeed, to the detriment of the physician employed and to the discouragement and abasement of the medical profession as a body. Such organizations are rare in this country, and we hope that they will never become common.

## ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending April 29, 1889:

| DISEASES. | Week ending Apr. 23. | | Week ending Apr. 29. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 11 | 3 | 5 | 2 |
| Scarlet fever | 446 | 47 | 281 | 43 |
| Cerebro-spinal meningitis | 4 | 3 | 5 | 5 |
| Measles | 164 | 11 | 174 | 12 |
| Diphtheria | 198 | 54 | 158 | 49 |

**The New York Academy of Medicine.**—At the next meeting of the Section in Pædiatrics, on Thursday evening, the 9th inst., Dr. W. E. Forrest will read a paper on "Retro-pharyngeal Abscess," and Dr. A. F. Currier will read a paper on "Vulvo-vaginitis in Children."

At the next meeting of the Section in Neurology, on Friday evening, the 10th inst., Dr. Charles K. Mills, of Philadelphia, will read a paper on "The Localization of Lesions of the Great Nerve Plexuses"; Dr. R. C. M. Dawbarn will give the history of "A Case of Spinal Resection for Fracture causing Paraplegia," with notes by Dr. L. C. Gray; and Dr. Matthew D. Field will present "A Report of Cases illustrating a Peculiar Defect of Memory in Chronic Alcoholism."

**Changes of Address.**—Dr. Joseph D. Bryant, to No. 54 West Thirty-sixth Street; Dr. J. F. Chauveau, to No. 31 West Sixtieth Street; Dr. J. Leonard Corning, to No. 53 West Thirty-eighth Street; Dr. George B. Fowler, to No. 56 West Fiftieth Street; Dr. Joseph O'Dwyer, to No. 967 Lexington Avenue.

**Recent Deaths.** — Dr. Harvey Lindsley, of Washington, D. C., died on Sunday, April 28th, aged eighty-five years. He was the oldest surviving member of the Medical Society of the District of Columbia and a medical educator with a record dating back to 1830. He was graduated from the National Medical College in 1828, and served as a professor in that institution from 1839 to 1846, holding the chairs of obstetrics and diseases of women and of practice. He was one of the founders of the Pathological Society, and was actively interested in every movement in society progress in the district.

Dr. O. G. Given, of Carlisle, Pa., died on April 26th, aged fifty years. He was a native of Ohio and was graduated from the Rush Medical College in 1870. He became governmental physician at the Indian Training School in 1884, and had been president of the Cumberland County Medical Society.

Dr. Charles W. Stickney, of Newark, N. J., died on April 23d, at the age of fifty-eight years. He was an alumnus of the University of Pennsylvania, of the class of 1858. During the civil war he served with distinction as surgeon of the Twenty-third Regiment of New Jersey Volunteers.

Dr. James Watson Friou died in Brooklyn on the 26th ult., aged fifty-five years. He was a native of Newbern, N. C., and a graduate in medicine from the University of Louisiana, class of 1856. He was at one time a resident of New York and a member of the Medical Society of the County of New York.

Dr. Frank W. Rockwell, of Brooklyn, died on Tuesday, April 30th, at the age of forty-six years. He was graduated from the College of Physicians and Surgeons of New York, and for a number of years was connected with the Long Island College Hospital.

The "British Medical Journal" announces the death of Dr. von Lauer, of the German army, who for many years had been the physician to the late Emperor William; also that of the eminent French chemist, M. Chevreul, in his one hundred and third year.

The "Lancet" records the deaths of Professor A. von Biesiadecki, of Lemberg; Dr. Chautrain, physician to the King of the Belgians; and Professor Joaquin Gimeno, of Saragossa.

**The New York Infant Asylum.**—Dr. Edmund C. Wendt has been appointed a visiting physician to the asylum, in place of Dr. E. Bradley, resigned.

**The Johns Hopkins Hospital,** in Baltimore, will be formally opened on Monday, the 7th inst.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 21 to April 27, 1889:*

Magruder, David L., Colonel and Surgeon. By direction of the Secretary of War, the retirement from active service this date, by operation of law under the provisions of the act of

Congress, approved June 30, 1882, is announced. Par. 4, S. O. 94, A. G. O., April 23, 1889.

**Vollum, Edward F.**, Colonel and Surgeon. Promoted to surgeon, with rank of colonel, from April 23, 1889.

**Wright, Joseph P.**, Lieutenant-Colonel and Surgeon. Promoted to surgeon, with rank of lieutenant-colonel, from April 23, 1889.

**Woodruff, Ezra**, Major and Surgeon. Promoted to surgeon, with rank of major, from April 23, 1889.

Pursuant to instructions contained in letter from A. G. O., Washington, April 13th, the following-named medical officers will assemble with troops in New York Harbor on the 27th inst., prepared for field service in connection with New York Centennial parade:

**White, Robert H.**, Major and Surgeon; **Ewen, Clarence**, Captain and Assistant Surgeon; **Cochran, John J.**, Captain and Assistant Surgeon; and **Ewing, Charles B.**, First Lieutenant and Assistant Surgeon. S. O. 90, Headquarters Division of the Atlantic, Governor's Island, New York city, April 19, 1889.

**Walker, Freeman V.**, First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, leave of absence for four months on surgeon's certificate of disability, with permission to leave the Department of Texas, is granted. Par. 12, S. O. 92, A. G. O., April 20, 1889.

*Change of Stations of Medical Officers.*

**Havard, Valery**, Assistant Surgeon. Relieved from duty at Fort A. Lincoln, Dakota, and ordered to Fort Buford, Dakota.

**Crampton, L. W.**, Assistant Surgeon. Relieved from Fort Bridger, Wyoming, and ordered to Fort Lyon, Colorado.

**Spencer, W. G.**, Assistant Surgeon. Relieved from Fort Yates, Dakota, and ordered to Fort Bridger, Wyoming.

**Robertson, R. L.**, Assistant Surgeon. Relieved from Fort Buford, Dakota, and ordered to Fort A. Lincoln. Par. 29, S. O. 95, A. G. O., April 24, 1889.

**Woodruff, Ezra**, Captain and Assistant Surgeon, by direction of the Secretary of War, is relieved from duty at Fort Missoula, Montana, and will report in person to the commanding officer, Fort Monroe, Virginia, for temporary duty at that post. Par. 14, S. O. 92, A. G. O., April 20, 1889.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the two weeks ending April 27, 1889:*

**Byrnes, James C.**, Passed Assistant Surgeon. Detached from special duty at Norfolk, Va., and to the Chicago.

**Heffenger, A. C.**, Passed Assistant Surgeon. Granted leave of absence for six months, with permission to leave the United States.

**Leach, Philip**, Passed Assistant Surgeon. Leave of absence extended six months, with permission to remain abroad.

**Lowndes, C. H. T.**, Assistant Surgeon. Ordered to Naval Academy, Annapolis, Md.

**McCormick, A. M. D.**, Assistant Surgeon. Detached from the Vermont and ordered to the Chicago.

**Wilson, George B.**, Assistant Surgeon. Detached from the Naval Hospital, Mare Island, and ordered to the Iroquois.

**Cordeiro, F. J. B.**, Passed Assistant Surgeon. Detached from the Vandalia, and ordered to the Naval Hospital, Mare Island, California.

**Bransford, John F.**, Surgeon. Ordered to the Iroquois.

**Stitt, Edward R.**, Assistant Surgeon. Ordered to the Bureau of Medicine and Surgery, Washington, D. C.

**Fereber, N. M.**, Surgeon. Ordered to the Naval Academy, Annapolis, Md., for examination of candidates for admission to the Academy.

**Society Meetings for the Coming Week:**

Monday, *May 6th:* Wisconsin State Medical Society (Milwaukee); New York Academy of Sciences (Section in Biology); Medico-chirurgical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Medical Association (annual); Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *May 7th:* Kansas State Medical Society (Topeka); New York Obstetrical Society (private); New York Neurological Society; Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Hudson, N. J., County Medical Society (annual—Jersey City); Mercer, N. J., County Medical Society (annual); Androscoggin, Me., County Medical Association (Lewiston); Connecticut River Valley Medical Association (Bellows Falls, Vt.); Baltimore Academy of Medicine.

Wednesday, *May 8th:* Kentucky State Medical Society (Richmond); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Society of the County of Albany; Pittsfield, Mass., Medical Association; Franklin (annual—Greenfield), Hampshire (annual—Northampton), and Worcester (annual—Worcester), Mass., District Medical Societies; Philadelphia County Medical Society.

Thursday, *May 9th:* Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

Friday, *May 10th:* Michigan State Medical Society (Kalamazoo); New York Academy of Medicine (Section in Neurology); Yorkville Medical Association (private); Medical Society of the Town of Saugerties.

Saturday, *May 11th:* Obstetrical Society of Boston (private).

# Letters to the Editor.

## AN OPENING FOR A DOCTOR.

Lambert, Tenn., *April 16, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: I have been so flooded with letters from all parts of the Union since you published the piece in regard to the need of a doctor at this place in your issue of April 6th, that I shall have to call upon you for aid. Unfortunately, I forgot to state the size of this place, and for that reason receive more letters than I otherwise should have done. I can not begin to answer all of them, so you will please state, for the benefit of all doctors wanting to change, that Lambert is in the country, with only one store, and is eight miles from Galloway, Tenn., on the Louisville and Nashville Railroad, and ten miles from Somerville, the county-seat of this (Fayette) county, which is on the Tennessee Midland. We have a mail here by horse twice daily. The practice will pay about $1,500 to $2,000 a year. The nearest doctor in any direction is eight miles away. Collections are usually made in full when cotton is sold. I will answer by mail any letters of application after the publication of the foregoing. If it is not asking too much, I shall be glad if you can give this a place in your next issue. I am confident I have received a great many letters from physicians who would not wish to locate in the country, but were inadvertently misled by the publication in your issue of the 6th inst.

With many thanks, James H. Cooke.

# Proceedings of Societies.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN LARYNGOLOGY AND RHINOLOGY.

*Meeting of March 26, 1889.*

Dr. C. C. Rice in the Chair.

**Complete Bony Occlusion of the Anterior Nares due to Hyperostosis of the Facial Bones.**—Dr. G. B. Hope presented a case of this rare affection, occurring in a young girl, with an account of the operative procedures that were being carried out to secure a nasal passage. The occlusion of the nares was due to growth of the turbinated bones, but, while other bones of the face had attained corresponding size and weight (the lower jaw being three fourths of an inch in thickness and the roof of the mouth half an inch), the other passages and foramina of the skull did not seem to have been encroached upon, with the exception of the lacrymal canal, which had become obstructed first of all, and the Eustachian tube, which was enlarged and of bony hardness. The smell, sight, and hearing were good. She had some cough from pharyngeal catarrh, snored at night, breathed almost entirely through the mouth, and had frequent attacks of coryza. Her other functions were normal. Of nine children in her family, she was one of two living. Her breathing had always been difficult, and she had had two attacks of pneumonia and one of bronchitis. With the electric trephine Dr. Rice was making an opening, now nearly completed, through to the pharynx.

Dr. Knight had seen thickenings of the palatal bones which about closed the posterior nares, but no case like the one presented. The slight impairment of nervous and other functions was remarkable considering the amount of bony growth.

**Ethmoiditis; Attempted Operation.**—Dr. Knight presented a patient upon whom he had operated on the right side, without success, to remove a soft red mass growing in the upper back part of the nasal fossæ. The affection had begun a year or more previously, being ushered in by intermittent and then persistent headache, and being accompanied by loss of smell and taste. Acids had been without result; the cautery had made a passage, but it had soon closed up again; Weir's forceps had next been used, and had caused repeated discharges of pus, which applications of peroxide of hydrogen had not arrested as yet.

**Laryngeal Vertigo.**—Dr. S. T. Armstrong, of the Marine-Hospital Service, read a paper with this title, in which he had collected all the recorded cases of laryngeal vertigo (sometimes called "epilepsy" and "syncope"), nineteen in number. He gave an elaborate review of the various theories which had been advanced to explain the occurrence of unconsciousness produced by laryngeal irritation. Cases had first been reported by Charcot. Dr. Lefferts and Dr. Gray had each published cases. Convulsions had in most instances been absent; in a few of the cases cited there had been movements. On emerging, the patient was not confused, and in one case it had been recorded that he would continue saying what the attack had interrupted him in. Local treatment of the larynx cured the whole trouble. These facts had led some to object to the term "laryngeal epilepsy," as not being properly descriptive. However, if we recognized that epilepsy might result from a scar or some persistent cause of irritation in any part of the body, it might not seem improbable that intense irritation of the superior laryngeal upon sudden sharp coughing might result in epileptoid unconsciousness by a direct effect on the brain. We need not suppose with some that the vagus and heart were affected primarily. Bromides had in some instances stopped the seizures. In a case occurring in the speaker's practice the attacks had been much favored by a condition of nervous exhaustion or the breathing of a vitiated atmosphere. Dimness of vision and muscæ volitantes preceded the attacks. The speaker preferred the term laryngeal syncope, as standing for a symptom of a functional rather than organic disorder.

Dr. W. R. Birdsall said the question uppermost in his mind was as to how these cases stood related to the laryngeal crises of locomotor ataxia, and referred to a case of posterior spinal sclerosis with tabes in which violent laryngeal crises had occurred, together with loss of consciousness. Treatment for a few weeks of a slight redness and thickening of the vocal bands by a specialist had caused suspension of the attacks for a long time, but they had subsequently returned. While attempting to get a view of the larynx he had once produced one of them; the man had apparently fainted, and had at first become very cyanotic, as if from a laryngeal spasm closing the glottis. He believed these attacks had been due to a functional disturbance acting through the branches of the pneumogastric, and thought this might be so in the case of laryngeal vertigo also. A spasm of the adductors closing the glottis might of itself have a brain effect.

**The Central Tracts of Olfactory Nerves and their Diseases.**—Dr. C. L. Dana read a paper with this title, in which he presented some facts and views concerning the first cranial nerve that, as he believed, were new. The nose was treated by rhinologists mostly as a respiratory organ. Disturbances of the sense of smell were commonly disregarded by physicians and patients, but it should be remembered that this sense served useful purposes. It was our most delicate means of appreciating attenuated matter. In fishes something akin to a sense of smell, if not an identical sense, was well developed. In reptiles there was a fair development of the sense, and in birds scarcely any; but the highest development was seen in mammals, except those of aquatic habits, like the seal, in which it was nearly wanting. In the anthropoid apes it was not well developed, and in savages, the negro and Indian (contrary to the assertions of some writers), its development was not equal to that which it attained in civilized races. The Indian might be superior in acuteness of smell, but in the discrimination of different odors and the appreciation of flavors and their æsthetic associations the civilized man was as much the superior of the Indian as the latter was in advance of the anthropoid ape. In animals it served for sexual purposes, for selecting food, for hunting prey, and for avoiding enemies. In man it served for selecting food and drink, for arousing the sense of hunger, for warning him against injurious vapors, and for æsthetic and to some extent sexual purposes. Diminution in keenness of olfaction was found present in the criminal, lunatic, idiotic, and degenerate classes in society. The olfactory sense in man was growing, and fortunately so, for every avenue which carried new impressions to the brain helped to develop it. He believed that the senses of smell and taste would one day be cultivated in children as a means of causing them to grow up with greater keenness of mind and larger capacity for discrimination and for æsthetic enjoyment. The sense of smell had always been appealed to in religious rites, and women instinctively learned that to exhale a delicate perfume added to their sexual attractiveness. He had lately observed anosmia in a number of neurasthenic patients, which was often independent of a catarrhal state, and he believed that, like asthenopia, it occurred in both neurasthenia and hysteria. In testing for smell he used ten phials, containing from one one-hundred-and-sixtieth to six tenths of a grain of vanilline.

Turning to the anatomy of the olfactory nerve, the speaker remarked that all other sensory nerves, at least before entering the nerve centers, connected first with a collection of bipolar cells, such as were seen in the spinal ganglia, the retinal rods and cones, or the cells of Deiters's nucleus in the auditory nerve-root. They then passed up toward the brain and, after crossing, connected with a collection of cells in the central gray matter of the cord or in the optic thalamus, and finally went out to the cortex. Sensory impulses never passed directly from periphery to cortex, and no nerve of special sense had its end-organ in direct continuity with the cortex.

The peripheral end-organ of the sense of smell was the olfactory bulb, with its terminal filaments and olfactory cells in the nasal mucous membrane. It was comparable in nervous structure to the eye. In some fishes the olfactory bulb was outside the cranial cavity. Then came the medullated nerve fibers connecting the bulb with the first ganglionic layers of nerve cells, and finally the olfactory cortical regions, which were widely separated and distributed, especially in the lower mammals. The olfactory areas consisted of the olfactory tract (a modification of the cortex rather than a nerve), the uncinate and hippocampal gyri, and the cornu Ammonis. All these parts were usually described as belonging to the inner and lower part of the temporo-sphenoidal lobe. There were, however, still other olfactory areas, somewhat rudimentary in man, but well developed in the lower animals. One was placed in the anterior end of the gyrus fornicatus, and was connected with the olfactory tract by the inner root of the olfactory nerve. From this part thin strands of gray matter (gyrus geniculi) passed up over the upper surface of the corpus callosum, where they were known as the striæ mediales et laterales of Lancisi. They ended posteriorly in a small convolution (callosal gyrus) and in the fascia dentata, itself intimately connected with the cornu Ammonis.

Another strand of olfactory tissue (mostly fibrous) started from the cornu Ammonis as the fimbria, and passed backward and upward and forward under the corpus callosum (here known as the fornix) and descended as the pillars of the fornix. Some fibers passed forward over the anterior commissure and connected with the outer root of the olfactory tract, but others seemed to continue in the pillars of the fornix, and passed down to end with them in the corpora mamillaria. From there fibers seemed to pass up into the optic thalamus. Both from the outer root and from the hippocampal region some fibers bent inward and passed through the anterior commissure. There was, however, no decussation of fibers in the case of the olfactory nerves, as at the optic chiasma.

In man the outer root of the olfactory nerve was the only one practically existing, and the center in the gyrus fornicatus and the connecting loops of gray matter were rudimentary. His olfactory area then consisted of the olfactory tract, its outer root, and the hippocampus, uncus, and cornu Ammonis. There was a commissural union, and some further connections in the temporal lobe by the fornix and associated fibers.

However, many facts in pathology compelled us to believe that olfactory sensations, like others of special sense, crossed; and we could hardly suppose that these impulses passed directly from periphery to cortex. Consequently the problem was not settled by our finding a center in the hippocampus and adjacent areas. His own belief was that the hippocampus and uncus were not really parts of the temporal lobe, but were atrophied remnants of a special lobe which at one time had been as prominent as the cerebral hemispheres. Just so the optic lobes, so large in birds, were represented in man only by the corpora quadrigemina.

The gray matter of the hippocampal regions and olfactory tract differed decidedly from that of the rest of the cerebral areas, and in this respect also these areas were analogues of the corpora quadrigemina. They were the seat of the sense of smell, but not of ideas of order and flavor, just as the corpora quadrigemina were the centers for vision, but not for visual ideas.

It was believed that all the special senses had some kind of representation in the optic thalamus. Focal lesions in the latter had been found to have caused anosmia in four recorded cases. Olfactory impulses must reach it by the outer root of the olfactory tract, the fimbria, fornix, and corpus mamillare. The fornix was small in the seal and dolphin, but large in animals having a keen sense of smell. We must suppose that from the optic thalamus the olfactory impulses radiated outward to the cortex. The lower centers of smell might have another cortical connection, through the intertemporal and occipito-temporal and association tracts.

It was interesting to note that the layers composing the olfactory bulb resembled the four outer layers of the retina; thus the olfactory cells in the nasal mucous membrane, with their pigment and their limiting membrane, were like the pigment, rods and cones, and limiting membrane of the outer layer of the retina. This tended to show that, like the olfactory bulb, the retina was a modified spinal ganglion, and also that the cortical centers usually assigned to the first cranial nerve were not its ultimate centers. Professor Haycraft had shown a relation between the molecular weight and vibration of bodies and the odor they exhaled, and that the rate of vibration of gaseous particles determined the production of different odors, just as variations in color depended upon the rate of vibration in the ether. It might therefore yet be possible to construct harmonies and discords in smell, and to produce actual symphonies in smell, which should awaken as deep emotion as the musical compositions of Beethoven or the paintings of Corot. The speaker had constructed a qualitative olfactometer for testing the sense of smell much as we tested color-sense or appreciation of musical pitch, consisting of two sets of phials, In the first set were the monatomic alcohols of gradually increasing molecular weight (methyl, ethyl, propyl, and amyl alcohols), and also increasingly pronounced odor; and in the second set were the fatty acids (formic, acetic, propionic, butyric, and valeric acids), whose odor varied from a purely acetic smell to one in which flavor alone was present. A person with a normal sense of smell should be able to distinguish each of those odors and their relative place in the series. Some might be found having a keen sense of smell but odor-blind, just as we found people with keen vision who were color-blind.

Diseases of the intracranial olfactory tracts occurred in locomotor ataxia, general paresis, senile decay, and (of a functional sort) in hysteria. Olfactory neuritis was rare. The tracts might sustain injury in various ways, as from tumors, thrombi, hæmorrhages, and meningitis in the adjacent pia. Syphilis was probably the leading cause of anosmia.

He believed tests of the sense of smell might aid in the diagnosis of central organic diseases of the brain after the rhinologist had determined that there was no nasal condition affecting the peripheral end organs of the olfactory nerve.

The Chairman, who with others discussed the nasal causes of loss of smell, said that, where it was due to hypertrophied conditions in the parts or to polypi, recovery might be brought about, but not after the atrophic stage had been reached.

# Reports on the Progress of Medicine.

## SURGERY.

By MATTHIAS L. FOSTER, M. D.

**Iodoform Collodion.**—Schmid ("Ctrlbl. f. Chir.," 1888, No. 19) furnishes an excellent article on the antiseptic protection afforded by iodoform collodion when applied over a wound after closure with sutures instead of the bulky dressings usually employed. He uses it very extensively, and denies the need of drainage when it is used, if strict antiseptic precautions are observed. When the wounds are of sufficient depth to require it, he introduces deep covered catgut sutures, one over another, to bring the cut surfaces into close contact and prevent any secondary hæmorrhage or accumulation of serous discharge. The edges of skin are then accurately coaptated with silk, and a layer of iodoform collodion is placed over all. This dressing he professes to have used in between two and three hundred operations of various kinds, including amputations of the breast, with cleaning out of the axilla; hip, knee, and shoulder resections, amputations, exarticulations, extirpations of various kinds of tumors, goître, etc., with good success. He recommends it especially for use in operations for the radical cure of hernia and in laparotomies, unless contra-indicated by peculiar conditions present in a particular case. In all operations for hernia in which the surgeon does not feel certain of asepsis he advocates tamponing the wound with iodoform gauze, rather than attempting to close it—a method preferable in certain cases.

This method of antiseptic closure of a wound is also applicable in cases where closure by means of the usual dressing is impracticable, as after operations on the mucous membranes, or where mucous membrane is sutured to the integument, where, besides the air, germ-laden liquids or solids come into contact with the wound—as in operations on the tongue, mouth, rectum, or vagina, or after operations on the face. Under this dressing in most of his cases the wounds healed primarily. Out of twelve kelotomies and thirty laparotomies it was necessary to reopen the wound in only two cases—one of each of these operations. A great advantage of this method is that the surgeon has constant visual control of the field of operation, and, when the wound is not doing well, he has not only the usual symptoms to guide him, but also the actual appearance of the tissues.

Collodion does not adhere well to raw surfaces. It is not the preferable dressing for children, because they can scratch it off too easily. It must not be applied around a finger, because in such case it would be apt to interfere with the nutrition. Before it is applied, the wound should be ascertained to be perfectly aseptic, as, if it is not, severe inflammation will develop, which will necessitate the removal of the collodion. To do this, wet cotton should be laid for a couple of hours over the collodion to soften it; otherwise its removal will cause pain. The wound can then be reopened to the necessary extent and allowed to granulate.

Occasionally, after the final removal of the collodion, one may find a quite superficial ulceration, which may be the result of the slight interference with the nutrition of the skin by the tension caused by the collodion, especially when an oblique incision has been made through the skin.

**The Disinfection of Surgical Instruments.**—Redard ("Rev. de chir.," May, June, 1888), by an extensive series of experiments, professes to show the inadequacy of a five-per-cent. solution of carbolic acid to disinfect instruments. This he proves in two ways—by obtaining cultivations from instruments infected with some septic material and then immersed for a longer or shorter time in the solution, and by inoculating sensitive animals with instruments treated in the same manner. In most of the cases he succeeded in proving the non-disinfection of the instruments. Still further, he demonstrates that pathogenetic organisms may live in the solution, and that the water used in making the solution may remain unsterilized for some time. Bichloride of mercury is more powerful and better for sponges, but is objectionable for instruments on account of its chemical action upon them. At some length he discusses the whole subject of disinfection, by means of various antiseptic solutions, by passing through a flame, and by boiling. All of these are, for one reason or another, objectionable, so he advances the proposition to sterilize instruments and dressings by exposing them for half an hour to steam at the temperature of 110° C. For this purpose he has devised a cylindrical copper boiler, which he fills about one eighth full of water; baskets with feet to keep the contents above the surface of the water, into which the instruments and dressings are placed, with a lid provided with a manometer and safety-valve. Heat is obtained from an alcohol lamp. The air is allowed to escape until the water begins to boil, the stop-cock is then closed, and the pressure is increased until the temperature of 110° C. is attained. He says that disinfection by this means is certain and practicable, that the apparatus is simple and safe, and that neither instruments nor dressings are changed if the temperature is not allowed to exceed 110° C.

Rather opposed to M. Redard's experiments regarding the disinfecting power of boiling water are the observations of M. Terrillon ("Le progrès médical," May 12, 1888). He acknowledges that spores resist the temperature of boiling water, but asserts that they lose their power of rapid development, and that a second boiling, after an interval of some days, will destroy all the microbes. He recommends that before and after every operation the instruments should be immersed for ten minutes in boiling water. Silk should be again plunged into the boiling water at the moment of using. He asserts that all the surgeons who have used this means of antisepsis have had wonderful results.

**Red Sulphuro-carbolic Acid as a Disinfectant.**—Laplace ("Deutsche med. Wochenschrift"; "Ctrlbl. f. Chir.," 1888, No. 30) makes a mixture of 25-per-cent. red carbolic acid with an equal part of red sulphuric acid, and obtains a black, thick fluid, which is very soluble in water. Its antiseptic strength he has shown by treating anthrax spores with solutions of various strengths; those placed in a four-per-cent. solution were dead in forty-eight hours; those placed in a two-per-cent. solution were dead in seventy-two hours. It is more effective than solutions of the same strength of pure carbolic acid, for the same reason that acid solutions of bichloride of mercury are more effective than those that are neutral, because the mixture of acid renders the disinfecting material more soluble in water.

**Actinomycosis.**—Afanassjew ("St. Petersburger med. Wochenschrift," Nos. 9–10, 1888) alleges as the result of his investigations that the actinomyces is not a mold fungus, but is a branching, thread-like bacterium of the genus cladothrix. He obtained pure cultivations in blood-serum, agar-agar, and bouillon, in which they formed colonies like those found in actinomycosis. Injections with these pure cultivations produced the characteristic lesions.

To determine regarding the pus of actinomycosis he treated one of the actinomycotic granules with a drop or two of a 1- to 5-per-cent. solution of caustic potash, in order to remove the pus-corpuscles. He found then two different sorts of collections, some of which have club-shaped formations at the periphery, and others which show a row of branching threads which radiate from one another. Both can be distinguished from the leptothrix by the threads of the latter being thick, straight, not branched, and arranged in tufts, rather than radiating from each other. Like the actinomyces, they are found in the excretions. Besides these large actinomycotic colonies, one can find in pus or sputum much smaller colonies, scarcely or not at all visible to the naked eye. These little colonies consist of very small accumulations of twisted, branched threads, which, according to Babès, sometimes occur alone in the pus, and are of much importance in diagnosis.

Braatz (*ibid.*, Nos. 14–15, 1888) reports a case of actinomycosis in which he found the branching bacteria in the urine. His description of them does not differ materially from that of Afanassjew. The treatment he employs for the sores is the use of equal parts of salicylic acid and absolute alcohol to make a paste, rubbed energetically into the granulating surface. After two days this comes away, leaving a healthier-looking surface. The paste is then reapplied. The sores heal after only a few of these applications.

Israel ("Berliner klin. Wochenschrift"; "Ctrlbl. f. Chir.," No. 29, 1888) describes a case of this disease. The diagnosis first made was that of syphilis of the muscles on account of a swelling on the inner side of the thigh. Afterward little abscesses appeared in various parts of the body, and the correct diagnosis was made. On autopsy, the internal organs were found to be involved; particularly, numerous little abscesses were found in the heart, lungs, spleen, kidneys, liver, and intestines. In the spleen the most characteristic appearance was found. It contained a great number of very small, thick-walled abscesses collected in masses, so that each fungus occupied its own little abscess, and could be separated from its surroundings. So the action of the actinomycetes stands between the granulation formation found in tuberculosis and syphilis and the formation of large abscesses by the action of the pyogenic bacilli in the tissues. In the liver and kidneys scars resembling those of syphilis were found, the appearance of which Israel thinks is characteristic of actinomycosis. The determination of the point of infection is made more difficult by the cicatrization of the parts first attacked while the process is spreading.

As in only a few cases is the point of entrance of the actinomyces into the system known, the case reported by E. Müller ("Mittheilungen zur klin. Chir."; "Ctrlbl. f. Chir.," No. 36, 1888) is of peculiar interest. In this case a splinter of wood was driven into the palm of the hand. After healing, a hard place remained, which two years later became enlarged, painful, and inflamed. The swelling was excised, and was found to contain the splinter of wood, the fibers of which were thickly interwoven with the threads of actinomyces. The length of the period of incubation, two years, is worthy of note.

**Cocaine in Amygdalitis.**—Dr. Hall ("Lancet," May 19, 1888) advises the application of a twenty-per-cent. solution of cocaine in cases of acute parenchymatous amygdalitis to relieve the dysphagia and lessen the tendency to suppuration. It should be painted on rather than sprayed, because sometimes its application in the form of spray produces attacks of syncope. It is advisable, previous to applying the cocaine, to spray the throat with a solution of bicarbonate of sodium, gr. x to ℥j. In the follicular form of amygdalitis cocaine is of no value.

**Erythrophlœine.**—Karewski ("Deutsche med. Wochenschrift," No. 8, 1888) does not have a high opinion of the value of this drug as a local anæsthetic. After a number of subcutaneous injections of various amounts into several healthy persons he has decided that its action differs in different persons; that it does not produce complete anæsthesia, but a well-marked analgesia lasting often twenty-four hours over a small area about the point of injection; and that the application of Esmarch's bandage certainly increases the efficacy of the new anæsthetic. To test its efficacy upon the mucous membranes he saturated tampons with a half-per-cent. solution and placed them in the nose. After eighteen minutes there was complete analgesia. Inflammation and pain sometimes result from the injection. In operative cases he says that in two cases of paronychia it had no effect, but in six cases where non-inflamed tissues were involved and the Esmarch bandage could be applied analgesia could be made to last an hour. Of six extractions of teeth, four were painless after injection of the anæsthetic under the gum. As a local narcotic he finds it of more value, and cites cases of lumbago, brachial neuralgia, intercostal neuralgia, and sciatica in which he induced a cure by injection. For this purpose he favors the mixture of cocaine and erythrophlœine recommended by Schöler.

**Cleft Palate.**—Mr. Howard Marsh ("Lancet," July 7, 1888) says that success in operations to remedy this deformity mainly depends on circumstances regarding which little is usually said. The age is very important. Often the mistake is made of operating too early. It may be possible to cure the slighter forms in children a few months old, but even then failure will be more frequent than success. It is usually better not to operate until the patient is four or five years old. The age at which risk of failure is least, if the mere closure of the palate were the only question, would be between nine and twelve. The patient must be in good general health when the operation is performed. The slightest deviation from health should suffice to postpone it. Next come the shape of the fissure and the conformation of the bones of the mouth. Here the important points are the width of the fissure, the shape of its anterior end, and the height or pitch of the arch of the hard palate. Closure is the more difficult as the cleft is wider, as the anterior end is rounded like the bow of a hair-pin, and as the arch of the palate is lower. He also regards the points of operative procedure to be of the greatest importance. When the edges of the cleft have been pared the soft parts should be separated, not only from the bones they cover, but especially from their line of attachment to the posterior border of the horizontal plate of the palate-bone—*i. e.*, along the transverse line of junction of the soft and hard palate. When the cleft is extensive the detachment should be carried outward and forward nearly to the teeth. To relieve tension, lateral incisions should be made midway between the sutures and the alveolar border, dividing the mucous membrane posteriorly, and the whole thickness anteriorly. The length must be sufficient to relieve the tension entirely. The sutures should be of silver for the hard palate, of horse-hair for the soft. The first suture should be of silver, at the junction of the hard and soft palates, and then the others should be inserted, beginning at the tip of the uvula.

After the operation no solid food should be allowed until the palate has healed. No good can be done by looking to see how the palate is getting on, but, as harm may be done by opening the mouth, it should not be examined for a week. The best chance is obtained by giving the palate complete rest. No local applications are usually needed. The sutures should remain *in situ* from ten to fourteen days. Closure by granulation may occur in cases in which primary union has partially failed.

**Cancer of the Tongue.**—Jacobson ("Am. Jour. of the Med. Sci.," Sept., 1888) emphasizes the need of recognizing the precancerous stage at the beginning of tongue cancer and the early removal of the growth. The precancerous stage he defines as "a stage in which inflammatory changes only are present, any ulcerative and other changes in the epithelium which may be present not amounting as yet to epithelioma, but on which epithelioma inevitably supervenes." To recognize this stage he considers the duration of the ulcer, its obstinacy to treatment, the age of the patient, absence of duration or fixity, careful scraping of the surface of the sore, and microscopic examination. For the small percentage of permanent cures he blames both the surgeon and the patient for delaying the operation and cultivating the cancer. Even where permanent cure is impossible, not only are months of life gained by the operation, but much comfort, because death from recurrence in the cervical glands is less painful and noisome than from the original lesion.

He considers four methods of operation—Whitehead's, Syme's, Kocher's, and that by means of the écraseur. Of these he prefers Whitehead's, of which he has made some modifications. He prefers to perform a preliminary laryngotomy and to plug the fauces in cases where the growth extends back into the posterior third of the tongue, when the surgeon is doubtful regarding his ability to control the hæmorrhage, and when the floor of the mouth is at all involved. He also splits the tongue before removal, because it is then easier to control hæmorrhage, and in certain cases it may be safe to leave half of the tongue. He combats the opinion that leaving half of the tongue is useless, and maintains that, on the contrary, the patient has most serviceable control over the half which is left. When the disease is very far back and unusual difficulties are present, he slits the cheek as far back as the anterior border of the masseter. He does not approve of preliminary ligation of the linguals.

A brief description is given of Syme's and Kocher's methods. Both are severe and should be reserved for cases in which Whitehead's operation would be insufficient to remove the disease on account of the involvement of the floor of the mouth or of the cervical glands.

The écraseur he does not recommend, because, however well behind the disease the loop is placed, it tends to come forward, as it is tightened, closer and closer to the diseased tissue, until, if it does not encroach on this, it may upon tissue in its close contiguity, ready to take on disease, and also because of its failure to successfully divide the lingual arteries. The galvanic écraseur is mentioned only for condemnation.

For some days before the operation Mr. Jacobson makes the patient practice washing out his mouth frequently with Condy's fluid, sitting up, with the head alternately dependent on either side. Also he makes the patient accustomed to feed himself with a tube attached to a feeder-spout and passed by himself to the back of the throat. After the operation he brushes over the surface with a solution of zinc chloride, gr. x to ℥ j, or of iodoform ether. Morphine is given freely, and ice to suck. Food is administered by means of a soft œsophageal tube.

The causes of failure as he enumerates them are: Septic diseases of the lungs, hæmorrhage, cellulitis, erysipelas, pyæmia, exhaustion, more rarely shock, œdema glottidis, suffocation from falling back of the tongue, and recurrence.

**Thoracotomy for Sarcoma of the Chest-wall.**—Park ("Annals of Surg.," Oct., 1888) relates a case of sarcoma of the chest-wall involving the fourth, fifth, sixth, and seventh ribs and the pleura, with adhesions to the lower border of the upper lobe of the left lung, which he removed by taking out a portion of the thoracic wall, five inches by three inches and a half, and tying off the adhesions. Numerous nodules were scattered through the lung, but there was no single sarcomatous mass. The patient endured the operation very well, but died a week later. An autopsy showed the left pleura filled with bloody serum in which the lung seemed to have macerated. The fluid had no odor. Both lungs were found to be studded with sarcomatous nodules.

**Hydrocele.**—It is usually considered that excision of the sac is a radical cure for hydrocele, but, according to the experience of Mr. Morris, this is not universally true ("Am. Jour. of the Med. Sci.," Aug., 1888). He reports two cases of recurrence after excision and says that as yet no true radical cure has been devised. The object of all treatment directed to a radical cure is to obtain obliteration of the sac. This may be done by inducing adhesion between the walls by means of injection with iodine as well as by granulation after incision or excision, but in a certain number of cases all forms of treatment fail to produce this desired result. As a rule, the method by injection is as satisfactory as any, except when there is doubt as to the precise nature or relations of the hydrocele sac, when it is complicated by a hernia, when a foreign body in the tunica vaginalis is the cause of the hydrocele, when there is reason to think that the testis is the seat of disease, for which castration would be the correct treatment, or when a vaginal hydrocele is associated on the same side with an encysted hydrocele of the cord and a bubonocele. In these cases the open operation is to be preferred.

**Amputation of the Leg.**—Several German surgeons have lately proposed modifications of the method of performing amputation of the leg, with a view to avoid necrosis of the soft parts over the sawn anterior edge of the tibia. They differ somewhat in detail, each aiming to form flaps which will produce the desired result.

Von Mosetig-Moorhof ("Wiener med. Presse"; "Ctrlbl. f. Chir.," No. 21, 1888) makes two lateral musculo-integumentary flaps, the outer being the larger, formed so that when united from behind forward there is some superabundance of tissue over the crest of the tibia, and so tension and the resulting necrosis are prevented.

Fuhr ("Münchener med. Wochenschrift," No. 15, 1888) favors a circular incision through the skin, then longitudinal incisions, in front a finger's breadth external to the crest of the tibia, behind, exactly opposite, thus forming two rectangular flaps. The outer flap consists of skin and fascia, the inner one of skin, fascia, and the periosteum of the anterior surface of the tibia. These flaps are reflected, the muscles cut, the bones sawn through, and the edges of the flaps united. The cicatrix at first extends obliquely from above and externally downward and inward, but finally comes to lie on the posterior surface. The skin of the stump remains movable over the crest of the tibia and its sawn surface.

**A Modification of Pirogoff's Amputation.**—Dr. Shiel reports a case in which he amputated the right foot according to a modification of Pirogoff's operation introduced by Günther ("Australasian Med. Jour.," March 15, 1888). An incision was made through the skin, beginning a little in front of the malleoli, reaching to the bone and extending over the sole of the foot. A small semilunar flap was next formed, reaching nearly to the scaphoid bone. The ankle-joint was then opened and the soft parts on both sides of the astragalus and the upper part of the os calcis were severed, the knife being kept close to the bone. At the insertion of the tendo Achillis the os calcis was sawn obliquely from above and behind downward and forward to where the os calcis articulates with the cuboid. Then a slice was cut from the ends of the tibia and fibula parallel to the section through the os calcis. The cut surfaces were then coaptated and fastened together. The result was quite satisfactory, a good stump being obtained.

**Osteo-dermatoplastic Amputation of the Foot.**—Rydygier ("Beilage zum Ctrlbl. f. Chir.," No. 24, 1888) proposes the following operation in cases where an ulcer occupies the anterior and lateral aspects of the lower part of the leg: The incisions resemble Pirogoff's, except that a large flap is formed of the entire thickness and length of the sole as far forward as the commissure of the toes, which, after the necessary cleaning and freshening of the ulcer and its borders, is applied as a cover to it. To make the flap fit neatly into the wound he takes two narrow lateral flaps from the bridge of tissue between the lower border of the freshened ulcer and the transverse dorsal incision. These little flaps he doubles back on either side so as to cover the surface. In the case related both these side flaps sloughed, but the main flap adhered and the result promised to be good when reported. This method he prefers to Keetley's modification of Syme's amputation for the same purpose, because the leg is not so much shortened and because there is better nourishment for the flap.

**Skin Transplantation.**—Thiersch (*ibid.*) reports two cases in which he transplanted extensive flaps of skin to fill the space left by the removal of malignant disease. The first case was one of carcinoma of the forehead involving the bone, of about the size of the palm of the hand. This was removed together with the pericranium and the affected bone. A portion of the dura mater, as large as the end of the finger, was exposed near the root of the nose. The exposed edges of the bone were chiseled away, because, according to his experience, skin flaps do not adhere well to compact bone. Hæmorrhage was stopped by pressure, and the wound was covered by long, rather broad flaps. In ten days it was healed, except in a few places where the chiseling of the bone had been neglected. Three weeks later the flaps had disappeared, the wound was granulating, and three cancerous nodules were found in the adjoining skin. These were removed, the wound was scraped, new flaps were applied, and a good result was obtained.

[It can hardly be supposed that Herr Thiersch presented this patient before the German Congress of Surgeons and did not explain the mode in which he obtained the flaps to cover so large a surface upon the forehead, but the description has been omitted in the report made of the case in the "Centralblatt." In the first operation the wound is said to have been covered with long and rather broad *flaps*, hence it may be that they were furnished from the surrounding tissues. But in that case, at the time of the second operation, the neighboring tissues would be in a cicatricial condition, very unfavorable for transplantation, and it would seem as though it would be necessary to obtain a flap from one of the limbs. If this was done it would be desirable to know which limb was employed, from what part the flap was taken, the means used, if any, to accustom the limb to a cramped position, and whether the ultimate effect upon the limb was injurious or not.]

The second patient had cancer of the right half of the face involving both the soft and bony portions, opening the cavities of the mouth and of the nose, and implicating the eye. All the diseased parts were extirpated and the wound was closed by a flap taken from the frontal and temporal regions, of the size of the palm of the hand, with a pedicle in front of the ear two fingers broad. The area exposed by the removal of this flap was covered by strips of skin. In eight days both wounds were healed.

**Deep Circumrectal Abscesses.**—Zeller ("Beiträge zur klin. Chir."; "Ctrlbl. f. Chir.," No. 26, 1888) strongly advocates opening deep circumrectal abscesses, including the prostatic, by an incision in the perinæum. The usual prognosis of these cases is not very good. Of one hundred and fourteen patients whose cases were collected by Segond, seventy recovered, ten had fistulæ remaining, and thirty-four died. Hence it is not best to wait for spontaneous rupture into the urethra or rectum. Opening the abscess through the rectum is open to the objections that the incision is not large enough, the deepest part of the abscess frequently can not be reached, antisepsis is not possible on account of the communication of the abscess cavity with the rectum, a recto-urethral fistula may result, and there may be dangerous hæmorrhage.

**Extirpation of the Rectum.**—Bardenheuer operated in the following manner before the German Congress of Surgeons ("Beilage zum Ctrlbl. f. Chir.," No. 24, 1888): He exposed the coccyx and lower part of the sacrum by an incision in the middle line, not dividing the sphincter. The exposed bones were then removed with cutting forceps, the unopened rectum was isolated, and provisional ligatures were placed above and below the tumor, which was then excised. After closure of a rent made in the peritonæum while isolating the tumor, the continuity of the bowel was restored by suturing the upper and lower parts together. Iodoform gauze and iodide-of-bismuth gauze were then packed into the wound and about the rectum. A thick rubber tube was passed into the rectum. The time occupied in the removal of the tumor was eight minutes, and in uniting the portions of bowel thirty minutes. Only two or three ligatures were necessary.

**Gastro-enterostomy.**—The danger of exclusion of a large portion of the small intestine is illustrated in a case reported by Lauenstein ("Ctrlbl. f. Chir.," No. 26, 1888). In this case a loop of ileum only a short distance from the ileo-colic valve was opened and sutured to the stomach. As soon as food was given by the mouth copious watery evacuations containing undigested food began, and continued until the patient's death from inanition, eleven days after the operation. The unreliability of Nothnagel's test is also shown, as on autopsy the intestine was found passing in the opposite direction to that indicated by the test. The operation was performed upon the lines laid down by Rockwitz (see this Journal, July 21, 1888), as observed by Lücke, who has been unusually successful, and it exhibits clearly the difficulties under which the surgeon labors and the dangers which at present attend such operations.

**Surgery of the Brain and Spinal Cord.**—Dr. Macewen delivered an address at the last meeting of the British Medical Association ("Lancet," Aug. 11, 1888) upon his own work and observations in this branch of surgery. He has operated in twenty-one cerebral cases, exclusive of fractures and brain lesions the immediate effects of injury, with three deaths and eighteen recoveries. All the patients who died were *in extremis* when operated upon. Two of these had abscesses of the brain; in one the pus had already burst into the lateral ventricles; in the other suppurative thrombosis had previously led to pyæmia and septic pneumonia. In the third fatal case there was a large subdural cyst over one hemisphere, with extensive softening on the opposite hemisphere, accompanied by œdema of the brain. The first case he reports was one in which no operation was permitted until after the death of the patient, when the accuracy of diagnosis, locating an abscess of the brain in Broca's lobe, was demonstrated. The second was a case of effused blood in the lower part of the ascending convolutions. The third was a tumor of the frontal lobe. Several of the cases are of special interest, such as one of Jacksonian epilepsy caused by a cyst situated partly in the cortical and partly in the white substance in the lower part of the ascending frontal convolution. In most of the cases the diagnosis was determined by a consideration of the motor symptoms; but in one case sensory phenomena, in the form of psychical blindness, were the guides to the hidden lesion—that is, physically the patient could see, but what he saw conveyed no impression to his mind. He had received an injury to the head a year before, and since then had suffered from deep melancholy and strong homicidal impulses, relieved by very severe paroxysms of pain in the head. The psychical blindness indicated the angular gyrus as the seat of the lesion, and, on operation, a portion of the inner table was found detached from the outer and pressing upon the posterior portion of the supramarginal convolution, while a corner of it lay imbedded in the angular gyrus. This was removed, and recovery was complete.

The removal of large wedges from the brain, especially in a motor center, will induce serious effects upon the brain as a whole, causing during cicatrization a dragging and displacement of the neighboring parts, with final anchoring of the cerebrum to the cicatrix. This is an important consideration in this form of treatment of epilepsy. Few would attempt the removal of such a large wedge as to induce permanent hemiplegia in the case of a stationary cicatrix, or of a slow-growing neoplasm occasionally producing fits, and it is serious to contemplate even in the worst cases, for it is equivalent to disarticulation of the upper and lower limbs of the same side at the proximal joints. In one case a tumor was exposed the removal of which would have led to a worse degree of hemiplegia than was present; the nutrient vessels were therefore ligatured in the hope of retarding its growth. Improve ment followed, the fits becoming less severe and altered in character.

Anchoring of the brain by a plastic effusion and cicatricial formation consequent upon injury interferes with its free play to expand and contract according to the varying states of the circulation. Any sudden physical effort produces a momentary disturbance. The gray matter about the cicatrix is apt to become unstable and produce fits, and, finally, if the irritation is continued, encephalitis is occasionally produced. The consistence of false hernia cerebri is identical with the red softening of the brain which occurs in idiopathic affections not due to operation. The reimplantation of bone is noted, and it is suggested that the note elicited on percussion of the skull may be an aid to diagnosis.

To relieve paraplegia caused by pressure on the spinal cord he has removed the posterior arches of the vertebræ in six cases. In five of these the pressure was due to a tumor, in one to traumatism. Four patients recovered, one died some months later of tuberculosis, and one a week after the operation. The successful cases were so to an eminent degree. Previous to operation the patients were quite helpless, with incontinence of urine and fæces. The disappearance of this incontinence was one of the first results. One patient, a boy nine years old when operated on, was able, five years afterward, to take part in all the games at school, including football, and felt quite strong. Another patient, eight months after operation, was able to attend to light duties around the house.

A case of successful evacuation of an abscess in the posterior mediastinum, pressing upon the heart and bronchi and threatening life, was also reported.

**Traumatic Subdural Abscess of the Brain.**—Sir William Stokes, in an article on this subject ("Annals of Surg.," October, 1888; "Dublin Jour. of the Med. Sci.," October, 1888) calls attention to the fact that a considerable length of time may intervene between the reception of the injury and the appearance of the symptoms of cerebral abscess. In the two cases which he reports this was not so marked as in the majority of the recorded cases which he cites. In the first case occasional headaches occurred for some weeks after a blow on the head, and then the decided symptoms of cerebral abscess supervened. In the second case there seems to have been an absence of symptoms for about a month. In Dupuytren's case several years intervened. Lawrence recorded a case in which the injury preceded death from abscess of the brain by five years. Others have recorded cases with shorter intervening spaces of time. This latency of the symptoms may be due to the occurrence of the abscess in particular situations and the ability of the brain to endure, up to a certain point, gradually applied pressure. Their appearance is, as a rule, sudden, and, if not interfered with, they run a rapidly fatal course.

Regarding the ætiology of these cases, he accepts the view of Dr. McDowel that they are mainly due to a primary inflammatory condition of the veins of the diploë and a secondary death of portions of the cranial wall, resulting finally in cerebral abscess. To aid in distinguishing this condition from meningeal or encephalic inflammation, he notes that the formation of pus resulting from cerebral traumatism may not be accompanied by fever.

The color and consistence of the contents of these abscess cavities vary greatly. Operation is indicated even when the patient is *in extremis*, with antiseptic precautions and exploratory puncture and aspiration when the trephine-opening does not correspond to the situation of the abscess. Drainage is desirable in the after-treatment of these cases. The occurrence of this lesion is rare, only eleven cases being on record.

**Tolerance to Foreign Bodies in the Tissues.**—Archer ("Lancet," Nov. 10, 1888) records a case illustrating the great amount of tolerance sometimes shown by the tissues to foreign bodies which have become lodged in them. A piece of white marble, of about the size of a small bean, was removed from an abscess over the carpo-metacarpal joint of the little finger. The patient was unable to explain its presence, but her mother stated that, fourteen years before, she had fallen on a newly made asphalt path and cut her hand severely. It healed readily after washing and strapping, and no further trouble was noticed until a week before she came under observation, when she struck her hand against a table. The stone was deeply lodged just above the joint, and had lain there quietly until the blow started fresh inflammatory action.

## Miscellany.

**Dr. Fordyce Barker's Paris Diploma.**—In a letter from Honolulu, published in the "Medical Record," Dr. P. A. Morrow says: "Dr. George H. Trousseau, to whom I have alluded, is the son of the famous Trousseau, of Paris, and inherits many of the brilliant and admirable qualities of his distinguished father. In giving me some reminiscences of his former life in Paris, he mentioned having met Dr. Barker as a guest at a dinner given by his father in Paris, and distinctly recalled the fact of his father having mentioned on this occasion that the diploma of the Faculté de médecine had been conferred upon Dr. Barker. He also declares that he not only *saw* the diploma, but that, at his father's request, he personally carried the document to Dr. Barker's hotel and left it there, to be delivered to him upon his return. It was a matter of great regret to him that he had not heard of the charge against Dr. Barker until many months after it was brought before the Academy, and thus had not the opportunity to refute it, which he would gladly have done. This direct statement, coming unsolicited from such an undoubted source, although not necessary to Dr. Barker's reputation, will be pleasant to his numerous friends."

**Vaccination.**—The "Bristol Medico-chirurgical Journal" for March, 1889, reviewing some books on vaccination, says: "Vaccination has got into undeserved discredit by the way in which its details have been carried out by thoughtless or careless operators. It is much to be desired that all vaccinations should be taken out of the hands of private practitioners, and allowed to be performed only by public vaccinators. The difficulties in the way of this much-needed reform could be easily overcome. Vaccination, as an important branch of preventive medicine, should be under Government inspection. Not only is there great difficulty, privately, in obtaining trustworthy lymph, often necessitating a resort to unauthorized sources, but, in deference to the sentimental objections of ill-informed parents, there are many practitioners of good social standing who are not ashamed, by vaccinating by one or two small insertions, to earn a cheap popularity, although thereby a serious danger is added to the life of a child thus made unfit to successfully resist a possible attack of small-pox. There are also doctors of a lower grade who set themseves up in unwholesome opposition to the public vaccinator, and, by performing the operation for a degrading fee of sixpence or a shilling, with a vaccination also much reduced in quantity—and therefore in quality—draw off a considerable number of ignorant mothers from the vaccination station, the efficiency of which becomes impaired through a greatly diminished attendance seriously limiting the selection of lymph, and the proper management of which becomes well-nigh impossible. In the light of Marson's figures (Seaton's 'Handbook of Vaccination,' ed. 1868, p. 216; McVail, p. 36; Woodward, p. 15), confirmed by all after-experience, conduct such as this, in various walks of professional life, seems little short of criminal, and has now reached such appalling magnitude as to urgently call for Government interference. If vaccination is to be a reality, and not merely something which leads its subjects into a fool's paradise, the state must insure, by an inspection through properly qualified officials, that it is carried out in all ranks of society in a thoroughly efficient manner."

### THERAPEUTICAL NOTES.

**The Topical Use of Acetanilide.**—According to the "Lancet," Dr. A. H. Newth, of Hayward's Heath, has used acetanilide as an external application for a few months, and reports favorably of it as an adjunct to other remedies. He has used it in psoriasis, in association with mercurials, and has found it to work like a charm. He has employed it also in chronic irritable ulcer, erysipelas, urticaria, herpes, and a few other conditions of the skin where there has been considerable irritation. The strength of these applications has been, for the most part, twenty grains of the drug to an ounce of lanolin or vaseline.

**Phenacetine in Whooping-cough.**—Dr. Heimann, of London (in an article in the "Münchner med. Wochenschrift"; "Lancet"), has resorted to this remedy, after some very unsatisfactory experience with antipyrine, and the results have led him to entirely discard the latter in pertussis. He has given as much as fifteen grains to children of three and four years of age with no ill effects.

**A Swiss Cure for a Fresh Cold.**—Camphor, says the "Lancet," has often been recommended for colds in the head, although Dr. George Johnson and others have long since indicated the dangers from concentrated alcoholic solutions. A Swiss pharmaceutical journal gives the following method: Into a jug half filled with boiling water put a drachm of powdered camphor; over it place a funnel-shaped paper from which the apex has been torn off so as to admit the nose. The camphorated steam may thus be drawn in through the nares for ten to fifteen minutes. Any coryza, it is maintained, however severe, will yield to three such applications.

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Lectures and Addresses.

# THE PLANS AND PURPOSES OF THE JOHNS HOPKINS HOSPITAL.*

By JOHN S. BILLINGS, M. D.,
SURGEON, U. S. ARMY.

The third paragraph of the letter of instructions communicated by Johns Hopkins to the trustees whom he had chosen to carry out his plans for a hospital in the city of Baltimore states that "it is my wish that the plan . . . shall provide for a hospital which shall, in structure and arrangement, compare favorably with any other institution of like character in this country or in Europe." What do you suppose the writer was thinking of when he penned that sentence? Had he in view any definite ideal, any mental picture of the institution which he proposed to establish, or was it merely an expression of a desire to give to his city the best thing that could be devised? I have read that letter many times, have heard much of the ideas, hopes, and wishes which were expressed in the numerous conversations which preceded its preparation, and it seems to me that the writer had an ideal, and not a mere vague desire—an ideal which was no doubt somewhat misty, but which did not correspond to any existing hospital, and one which he did not attempt to define except in a few prominent points to which I shall presently refer. In most respects Johns Hopkins took the same course with his hospital which he did with his university, and deliberately refused to trammel with specific directions those whom he had chosen to carry out his plans; but this letter of instructions indicates, nevertheless, a conception of much more definite character, and one which had been the subject of more discussion and reflection than his scheme for a university. Whether this be so or not, I am at all events sure that his trustees have endeavored to comply with this letter of instructions, and to do so in the broadest and best sense of the words.

The beginning of the results we have before us to-day—results which even now are not confined to these particular aggregations of bricks and mortar, as will be presently explained, and the end of which will be, as we hope and believe, to make life happier for millions now living and yet unborn. Only those who took part in the early deliberations of those charged with this trust can fully realize the anxieties, the doubts, the manifold perplexities which at first attended their decisions and movements. Only one or two of them had any knowledge of hospital matters; most of them were business men, bankers, lawyers, judges, railway managers, men who knew something of the management of men and money, but who were now brought face to face with a new problem—viz., how to build, organize, and manage a hospital so that it should compare favorably with any other hospital in this country or in Europe.

To "compare favorably with," what does that mean? It is a peculiar phrase, which, coming from a shrewd business man and a member of the Society of Friends, signifies, I think, to excel, if possible; at all events, that is the safest interpretation. And it was not this or that hospital which was to be surpassed or equaled, but all other hospitals in this country or in Europe; Africa, Asia, and Australasia being put out of the question. It was a large contract.

The location was fixed—that had been done by Johns Hopkins; but they had to decide whether the structures to be erected should be temporary or permanent, of wood, brick, or marble, in one large building or in many, and many other like points, before even the preparation of plans could be commenced. They followed the instructions of the donor and got advice, of which a great abundance was available. They visited the large hospitals of our eastern cities, employed five men, supposed to be skilled in hospitals, each to write an essay giving his plans and suggestions, published these essays in a book which had a wide circulation, and studied the criticisms and reviews to which this book gave rise.

Having duly considered the multifarious and widely divergent suggestions thus obtained, they finally selected one of the essay writers and asked him if he was satisfied with his own plans now that he had seen the others and the published criticisms upon them. He promptly said that he was not, whereupon they asked him to try again and do better. He set to work, aided by the architect of the board, and the result was a set of sketch plans which he took abroad and obtained much counsel and criticism on, examining at the same time the model hospitals of Europe. He was much less satisfied with the sketch plans when he came back than he was when he started, and again the building committee, the architect, and himself reviewed the whole matter, and finally settled on the general arrangement which you will see to-day. Many details remained to be worked out; even the façades had not yet been designed; but the general scheme was settled, and the rest was comparatively easy for the time being.

Let us now for a few moments consider the broad general principles which governed the trustees in the adoption of this plan. The first hospitals were established to give shelter and food to the sick poor, especially those who gathered in cities. Gradually physicians found that they could learn much in these aggregations of suffering and that they afforded the means of teaching others; but this last use of them is only about two hundred years old. Gradually, also, it came to be known that the knowledge thus obtained in the care of the sick poor was of use in treating the diseases of the well-to-do; and finally, within the last twenty-five years or so, people are beginning to find out that when they are afflicted with certain forms of disease or injury they can be better treated in a properly appointed hospital than they can be in their own homes, no matter how costly or luxurious these may be. In the hospital they can have not only all the comforts of home, but more; not only skilled medical attendance and skilled nursing, but the use of many appliances and arrangements specially devised for the comfort and welfare of the sick which can hardly be found in any private house, and also freedom from noise and many petty annoyances, including in some cases too much sympathy and in others too little. This hospital, then, is to provide for the rich as well as for the poor; for those who can, and ought to, pay for the help given, as well as for those who can not.

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* An address delivered at the opening of the hospital, May 7, 1889.

A second cardinal principle to be observed in such a hospital as this is, that it shall do as little harm as possible. A hospital may do harm by its foul air, by spreading contagious disease among its inmates, by neglect or carelessness of its nurses or attendants; and in years gone by hospitals have, no doubt, caused nearly as much sickness as they have relieved. This is now rarely the case, and in this hospital the arrangements for ventilation, isolation, and nursing are such as to entirely do away with this danger. There is another danger connected with free hospitals and dispensaries which is of quite a different kind and to which I can here only allude, namely, the danger of promoting negligence, shiftlessness, laziness, and vice by offering free relief from their consequences—the danger of pauperizing people. This is a danger connected with organization and management rather than with construction, and I can only say here that it has been foreseen and will be, as far as possible, guarded against.

The third principle to be kept in view in such a hospital as this is, that it should provide the means of giving medical instruction, for the sake of the sick in the institution as well as of those out of it. It is well known to those familiar with the subject that the sick in a hospital where medical instruction is given receive more constant, careful, and thoughtful attention than do those in a hospital where no such instruction is given. The clinical teacher must do his best; keen eyes will note every error in diagnosis, every failure in results of treatment. Moreover, the very act of teaching clarifies and crystallizes his own knowledge; in attempting to explain, the dark places become prominent and demand investigation, and hence it is that those cases which are lectured on receive the best treatment. I need say nothing here on the other side of the question, the value of properly trained physicians to the community and the necessity for hospital instruction in such training; Johns Hopkins understood all this and specially directed that "in all your arrangements in relation to this hospital you will bear constantly in mind that it is my wish and purpose that the institution shall ultimately form a part of the Medical School of the University."

Now there are medical schools and medical schools, and in obeying this direction of the donor the trustees had to consider what sort of a medical school this school of the university was likely to be. As the majority of the trustees were also trustees of the university, they knew well the principles which underlie the organization of that institution, and that the same principles would govern the organization of the medical department when that came to be taken in hand. One of these principles is the thorough teaching of that which is known, another is to increase that which is known, and to furnish the men and means for doing this. So also the hospital should not only teach the best methods of caring for the sick now known, but aim to increase knowledge, and thus benefit the whole world by its diffusion. Another point which had to be kept in view was the direction of Mr. Hopkins that there should be established, "in connection with the hospital, a training school for female nurses, not only to care for the sick in the hospital but to benefit the whole community by supplying it with a class of trained and experienced nurses."

It is also highly desirable that a hospital of this kind should have connected with it a well-appointed dispensary for the treatment of those who need medical aid, but not a bed, in the hospital. Through such a dispensary much good can be done at small cost, the selection of proper patients for the hospital is facilitated, the means of medical investigation and teaching are greatly extended, and the scope of the nursing system can be made to reach the poor and ignorant in their own homes.

The last point to which I shall refer, which was kept in view by the trustees in deciding upon the plans, was the general appearance of the buildings and grounds.

Mr. Hopkins gave no specific directions as to the buildings, but he directed that the grounds should be properly inclosed by iron railings, and so laid out and planted as to be a solace to the sick and an ornament to the city, and it was evident that the buildings should be of the same character so far as their purpose would admit. It was therefore decided that, while no utility should be sacrificed for the sake of architectural ornament, and the main purpose which I have referred to should be fully worked out in the plans before any attention was paid to external appearance, it was fit and proper that the buildings should form an ornament to the city, and a suitable monument to the memory of the donor.

Bearing in mind, then, these main principles, to provide for the proper care of the sick, both rich and poor, to provide for the highest class of medical education, to increase and diffuse knowledge, to provide trained nurses for both hospital and city, to provide a dispensary, and to make the buildings and grounds ornamental and attractive, let us see how the problem has been thus far worked out.

I will begin with the arrangements for securing that article of prime necessity in a hospital, viz., pure air. Air supply and ventilation in this climate are inseparably connected with heating for a considerable portion of the year, for comfortable warmth must be secured, and on the means of doing this must largely depend the methods of ventilation and their success. The temperature of Baltimore may vary from 103° in the shade to 17° below zero F., hence its perfect hospital must be one which would answer for the tropics or for northern Russia. To secure this, double walls, with air spaces, were given to the buildings, and a system of heating by the circulation of hot water was adopted for the wards. This system consists of central boilers, from which flow and return pipes extend beneath every building, connected with heating coils, of which there is one for every two beds in the ward above. The temperature in these coils can be exactly regulated to any temperature between 150° F. and the temperature of the external air by simply regulating the velocity of the flow of water by the valves attached to each coil, and thus it is quite possible to give one pair of beds a temperature of 70° and another pair in the same room, at a little distance, a temperature of 60° F., to suit the needs of different cases. The 80,000 gallons of water contained in this heating apparatus go round and round, carrying heat from the furnaces to the wards; but every building has its own independent means of ventilation, and it is not possible to go from one ward into another without going into the open air on the way, so that foul air, if any forms, can not spread from one building to another. Nevertheless, the buildings are so connected by corridors and underground tunnels that in passing from one to another there is no exposure to rain or snow, and the least possible to cold air, while the food is not exposed at all. This is not the place to describe the ventilation. I will only call your attention to the fact that the temperature of the incoming air by any bed is easily changed by turning a valve, while the quantity of air is not changed; to the arrangement for taking foul air from either the bottom or top of the ward, or from both, and to the fact that all this has been thoroughly tested during two winters and found to give the results hoped for.

One of the peculiarities of the wards is that all the service rooms are collected at the north end, leaving the south end free of obstruction and fully exposed to the sun, the end of the ward being a large bay window looking out on the central garden, and with a floor which can be warmed so that the patients, able to sit there, can be thoroughly comfortable. Another peculiarity of the sick wards is the arrangements for easy cleansing, and to prevent possible accumulations of dust in corners and crevices. Corners are to a great extent done away with, and easy curves given in their place; even at the junction of the floor and walls there is a curve instead of the usual right angle, and I advise you to look at it and see how it has been produced, for it ought to become fashionable, and take the place of the old mop-board in all well-constructed houses. So, also, the doors have not the usual molding about the panels, giving recesses which it is almost impossible to clean.

One of the wards is especially arranged for cases which may be either contagious or offensive. In this building each patient is in a room by himself, and all these rooms open into a corridor through which the wind is always blowing. There are many details about this isolating ward which are worth looking at, but which I have not time now to refer to, and I must omit details about the pay ward, the octagon ward, and the peculiar fittings and conveniences of the kitchen, laundry, apothecaries' building, etc., for the same reason.

Let us pass now to the second object of the hospital, the giving means for higher medical education, and see what has been done for that. In the first place, there is a large amphitheatre with appended rooms for the reception of accidents and emergencies of all kinds. In the second place, provision is made for at least thirty students to reside constantly in the hospital and devote themselves under proper guidance to the study of disease and the practical care of the sick. It is intended that these places shall be open only to those who have had a thorough previous training, and who have shown themselves to be fitted to undertake this important part of their studies. As a rule, not more than five per cent. of medical graduates have had any opportunities worth speaking of to study and treat diseases in the living man when they receive their diplomas. They have to get this experience on their first patients, and sometimes the experience is rather hard—for both doctor and patient. This hospital has provided for the class of the medical school in the last year of their studies good rooms with bath-rooms, a dining-room, and other conveniences, and here they can be taught the actual daily work of a physician, for which all their previous studies are only preparatory. Many of the arrangements of the hospital have been constructed with reference to this instruction; it is a great laboratory for teaching the practical applications of the laws of hygiene to heating, ventilation, house-drainage, and other sanitary matters. All pipes and traps are either exposed to view or can be seen by merely opening a door, and in the tunnel beneath the corridor you can study at your leisure the complicated and yet simple arrangement of pipes for gas, steam, water, sewage, etc., which are usually buried and remain a profound mystery to every one except the plumber, and often puzzle even him.

Closely connected with this subject of teaching is that of increasing our knowledge of the causes, symptoms, results, and treatment of disease; in fact, one can not be thoroughly and well done without the other, and hence many of the provisions for the one are also useful for the other. For example, to go back to our system of heating and ventilation, there are many points connected with it which are destined for experimental work, to compare steam with hot-water heating, to determine the velocity of water at different temperatures, to compare ventilation by aspiration with that by propulsion, or by upward currents with those drawn downward.

One structure is very largely devoted to and fitted for experimental research, and that is the pathological laboratory, where the causes, processes, and results of disease are to be studied. Upon the results obtained in that laboratory may yet depend the saving of many lives, the relief of unspeakable agony, the warding off of pestilence from the city, and, to put it in a strictly business light, the value of real estate and the rate of taxation of this community. We are on the verge of great advances in our knowledge of the causes and methods of disease, and I feel sure that these will be only preliminary steps to far greater and better knowledge of how to prevent or to treat them than we now have. The probable length of life of the new-born infant to-day is not much more than half what it ought to be; the practical productive period of the life of our men and women is shortened and interrupted by unnecessary disease and suffering; but remember, if these things are to be amended, it is not merely by teaching old doctrines; we must open fresh windows and let in more light, so that we can see what these obstacles really are. It is in this work of discovery that it is hoped that this hospital will join hands with the university, and it is in this hope that some of the structures around you have been planned and provided.

A word now on the fourth object kept in view in this hospital, viz., the training school for nurses.

Some of you probably have had some personal experience of the difference between an educated, properly trained female nurse, and one of the old-fashioned sort, but if you have not, it would take much more time than I now have to describe it. I can only say that in many cases a competent trained nurse is as important to the success of treatment as a competent doctor, and that one of the greatest difficulties in treating well-to-do patients in their own homes in this city is the want of proper nurses. Affection and zeal may do much, but they can not take the place of knowledge, and this kind of knowledge is not to be acquired in a day or in a month. It is a work best carried out by women, though not one woman in ten is fit for it, or should undertake it. But the woman who is fit for it, who has physical health and strength, sound sense, loving kindness, patience and tact, and who has been thoroughly taught the art of nursing the sick, with all its thousand details, has the power of doing good and increasing happiness to a degree which few others possess. In a properly conducted hospital ward she is a necessity, but her field of usefulness and helpfulness is by no means limited to that. She is needed outside the hospital, in the home of the rich to nurse and care for the sick; in the home of the poor, to teach prevention as well as nursing. To gather here such women, to have them thoroughly instructed, to furnish them with the attractive and comfortable home which they deserve, and to send them where they are most needed, with provision for their return when the work is done, is the object of the training school of this hospital.

For this purpose the trustees have provided a large and handsome building, separated from the others, and exclusively appropriated to the female nurses, where each can have her own comfortable room, and where a common parlor, library, dining-room, bath-rooms, and, in short, the arrangements of a first-class hotel are provided for their use. Here also is a training-kitchen and a lecture-room to aid in the work of instruction. The intention is that when the nurse has finished her six or eight hours' tour of duty with the sick, she shall come quite away from the ward and all that pertains to it, and take her rest and recreation in a totally different atmosphere, and special effort has been made to have this home attractive and pleasant.

The fifth object which I mentioned as having been kept in view in the plan and construction of these buildings is the dispensary. This is a large building on the north front, consisting of a large central waiting-room, surrounded by a number of smaller rooms for the use of the physicians and surgeons who are to examine and prescribe for the patients, and having bath-rooms, and a small apothecaries' establishment for the issue of the medicines ordered. This building is connected with the amphitheatre by a short covered corridor, and is specially arranged with reference to teaching. It, as well as the amphitheatre, is heated by steam instead of hot water, partly because they are not in constant use, and a rapid means of warming is desired, partly for the purpose already referred to of giving the means of experimental comparison of the two systems. The means of supply of fresh warm air in these two buildings, and of removing the air made impure by exhalations, are somewhat peculiar, and merit examination.

With regard to the architectural design and external appearance of the buildings, and the laying out and ornamentation of the grounds, I can only say that you must see and judge for yourselves whether Mr. Hopkins's wish that they should be an ornament to the city has been successfully complied with. So far as external ornamentation is concerned, it is confined almost entirely to the large buildings on the west, or Broadway, front, which it was felt should harmonize in style of decoration. These central buildings, consisting of the administration, with the one pay ward on either side, are constructed of pressed brick with ornamentation of a dark blue, fine-grained, hard, and durable stone, known as Cheat River stone, and of molded terra-cotta of the color of the brick. The external designs for these, as for all the other buildings, were furnished by Messrs. Cabot and Chandler, of Boston, and I think we have good reason to be well satisfied with the results they have produced. The grounds are laid out and planted in accordance with designs furnished by Mr. E. W. Bowditch, of Boston.

As regards construction, I do not hesitate to affirm that these are the best built buildings of their kind in the world. The material is the best, the most skilled and careful workmen were employed, and, above all, the work received the most careful, conscientious, and intelligent supervision as it progressed. For this supervision we are indebted Mr. John Marshall in the beginning and to Mr. William H. Leeke for the remainder and conclusion of the work; and we are also indebted to the latter for many valuable suggestions as to modes and details of finish which are so important in a hospital. The details of the complicated and extended system of heating, ventilation, and plumbing were designed and the work executed by Messrs. Bartlett, Hayward, & Co., of this city. I should like to go on and mention a number of other names of persons who have done good work here, but want of time forbids. I will only say that these buildings embody the counsels and suggestions of many men and women in this country and abroad, but among them all there is no one who from the very beginning of the conception of the idea of this magnificent gift in the mind of Johns Hopkins down to this present moment has had more to do with shaping the results, who has furnished more valuable suggestions, who is more thoroughly acquainted with all that has been done and why it has been done, who has worked so unselfishly, and who more deserves honor in this connection than the president of the board and chairman of the building committee through the whole progress of the work, Mr. Francis T. King.

Briefly and incompletely as I have sketched these salient points of the plans and purposes of this hospital, I hope I have, nevertheless, shown you that it is intended for other purposes besides providing shelter, food, and drugs for the sick. In saying this I have not the least wish to undervalue or disparage those institutions which do make this their main or only object. There is abundant need of their existence and work also; but this institution should not be judged by the rules which apply to them; it can not be managed after their fashion; if it does not produce results different from theirs it is a failure and the expenditure upon it a mistake.

Thus far I have been speaking of the buildings only, and trying to give you some idea of the motives which led to their being as they are, and what they are, and not otherwise. From the beginning, however, it has been recognized that the buildings and machinery are only means to an end, tools which must be handled by skilled workmen to produce the desired result; and throughout all these years of planning and building the question of organization and of the sort of men and women who were to use and work with these things has not been lost sight of. It is true that no attempts were made to select and engage individual members of the hospital staff until quite recently; but there was, nevertheless, a tolerably definite conception as to the ideas, mode of work, character, and wants of those who are to constitute this staff, and when the time came for selecting, it was made by this standard.

On the philanthropic, social, and religious aspects of this great trust I do not propose to touch, but I wish to say a very few words of the hopes and wishes of scientific men and physicians with regard to it. From the time of the first announcement of the Hopkins bequests to the present, these men, all over the world, have been keenly interested in the plans and methods adopted in carrying them out. Whenever and wherever the problems of higher medical education have been discussed within the last ten years, there has been speculation as to the probable course of the Johns Hopkins medical department, and the influence it would have upon the standard. I may even say that some of this influence has been exerted in advance, has been discounted, as it were, for the plans of this hospital have stimulated changes in some of our best medical schools, and have been copied with more or less modification in some of our latest hospitals.

What is it, then, that the physicians want? Is it more physicians, more family practitioners, more surgeons, more specialists? Not at all. They know very well that there is no danger that the supply will not be equal to the demand; when they become overburdened with practice they do not at present find it difficult to obtain assistants; they have no fear lest the seventy or eighty medical schools of this country should fail to produce a sufficient number of medical practitioners to meet the wants of our increasing population; and they know also that medical schools of Great Britain and Germany are sending to us quite as much of their product as we can conveniently dispose of. They hope that the Hopkins medical school and hospital will do two things. The first is, that it will demand of those who propose to become its students evidence that they have a sound basis of preliminary education before they commence, and that its standard in this respect shall be little below that of the requirements for granting the degree of bachelor of arts in the university. It is hoped that the men thus selected will go through a carefully graded course of study, including actual work in properly fitted laboratories, and that after this they will be brought into contact with the sick, and thus obtain practical experience of the duties and responsibilities of the practitioner of medicine before they offer their services as such to the public.

So much our physicians desire of every medical school, for the sake of the honor and dignity of the profession, and for the good of the public, and they desire especially that this school shall form an example to which they can point as showing how medical education should be conducted, and what should be required of the candidate for the degree of doctor of medicine.

The very general interest in the combined Hopkins trusts felt by physicians and scientific men, not only of this country but of the whole civilized world, is largely due to the belief that the relations which will here exist and be maintained between the university as a whole and its medical department, of which this hospital is to be an important part, will be close and intimate, so that the true university spirit will pervade, stimulate, and encourage the hospital work. In this country medical schools have either had no connection with universities properly so called, or the connection has been slight and nominal—such as depends upon the formal conferring of medical degrees by the university. Here, however, through the influence of the biological department, there are secured common interests and mutual influence, and it is hoped, therefore, that the necessary details of technological instruction will be arranged in accordance with and subordinate to the broad principles of scientific culture upon which this university is organized.

It is because it is believed that this will be the case that there is a widespread hope and expectation that these combined institutions will endeavor to produce investigators as well as practitioners, to give to the world men who can not only sail by the old charts, but who can make new and better ones for the use of others. This can only be done where the professors and teachers are themselves seeking to increase knowledge, and doing this for the sake of the knowledge itself; and hence it is supposed that from this hospital will issue papers and reports giving accounts of advances in and of new methods of acquiring knowledge, obtained in its wards and laboratories, and that thus all scientific men and all physicians shall share in the benefits of the work actually done within these walls. But, however interesting and valuable this work may be in itself, it is of secondary importance to the future of science and medicine, and to the world at large, in comparison with the production of trained investigators, full of enthusiasm, and imbued with the spirit of scientific research, who will spread the influence of such training far and wide. It is to young men thus fitted for the work that we look for the solution of some of the myriad problems which now confront the biologist and the physician.

Do I seem to ask too much? to be too sanguine as to what human thought and study and skill may accomplish? to forget that there is one event unto all; that the shadow of pain and death comes on the wise man as on the fool? I have two answers. As surely as our improved methods of prevention and treatment, based on the advances in knowledge of the last fifty years, have already extended the average duration of life in civilized countries nearly five years, have prolonged thousands of useful and productive lives, and have done away with the indescribable agonies of the pre-anæsthetic period, so surely we are on the verge of still greater advances, especially in the prevention of infectious and contagious disease, in the resources of surgery against deformities and morbid growths, and in the mitigation of suffering due to causes which can not be wholly removed. But the second answer is more important, and it is this: It is our duty to try to increase and diffuse knowledge according to the means and opportunities which we have, and not to rest idle because we can not certainly foresee that we shall reap where we have strewn. "It is not incumbent on thee to finish the work, but thou must not therefore depart from it," says the Talmud, and "Of him to whom much is given much shall be required," says the Scripture.

To you, the officers of this institution, and to you, men and women of Baltimore, there is now given the opportunity of giving powerful aid in this increase and diffusion of knowledge of the laws of human life, disease, and death. Surely those who are working in the wards and laboratories of the hospital and university will do their best; surely, also, the citizens of this great city of a great nation, which at no distant day will take the lead in scientific work, will encourage, sustain, and sympathize with these workers. I would have this hospital become famous, not for fame's sake, but because this will be evidence of the good work which has been done in it; but we must not be impatient. There are difficulties to be overcome, delays which must be submitted to. We can not at once have the medical school which is essential to the plan which I have sketched; but there is plenty to do for the present, and I am certain that in time all these present obstacles to full development will be happily overcome.

Success in this, as in all other enterprises in this world, is to be obtained by unselfish work for the good of others, by wise counsel, by co-operation, and by persistent effort.

A hospital is a living organism, made up of many different parts, having different functions, but all these must be in due proportion and relation to each other, and to the environment, to produce the desired general results. The stream of life which runs through it is incessantly changing; patients and nurses and doctors come and go; to-day it has to deal with the results of an epidemic, to-morrow with those of an explosion or a fire; the reputation of its physicians or surgeons attracts those suffering from a particular form of disease, and as the one changes so do the others. Its work is never done; its equipment is never complete; it is always in need of new means of diagnosis, of new instruments and medicines; it is to try all things and hold fast to that which is good.

"Et quoniam variant morbi, variabimus artes."

It has been said that "hospitals are in some sort the measure of the civilization of a people," but a hospital of this kind should be more than an index. It should be an active force in the community in which it is placed. When the mediæval priest established in each great city in France a Hôtel Dieu, a place for God's hospitality, it was in the interests of charity as he understood it, including both the helping of the sick poor and the affording to those who were neither sick nor poor an opportunity and a stimulus to help their fellow-men; and doubtless the cause of humanity and religion was advanced more by the effect on the givers than on the receivers. It is the old lesson so often expounded, apparently so simple and yet so hard to learn, that true happiness lies in helping others; that it is more blessed to give than to receive.

In some respects we to-day have a much wider outlook than the men of a thousand years ago. This hospital is designed, as I have told you, to advance medical science as well as to give relief to the sick poor, but the fundamental motive is the same—to help others.

We have here the beginning of an institution which shall endure long after the speakers and the audience of to-day shall have finished their life-work and have passed away. Founded in the interests of suffering humanity, intimately connected with a great university, amply provided with what is at present known to be essential to its work, we have every reason to predict for it a long and prosperous career, with steadily progressing improvement in its organization and methods, and enlargement of its activity and influence.

Let us hope that before the last sands have run out from beneath the feet of the years of the nineteenth century it will have become a model of its kind, and that upon the centennial of its anniversary it will be a hospital which shall still compare favorably, not only in structure and arrangement, but also in results achieved, with any other institution of like character in existence.

## Original Communications.

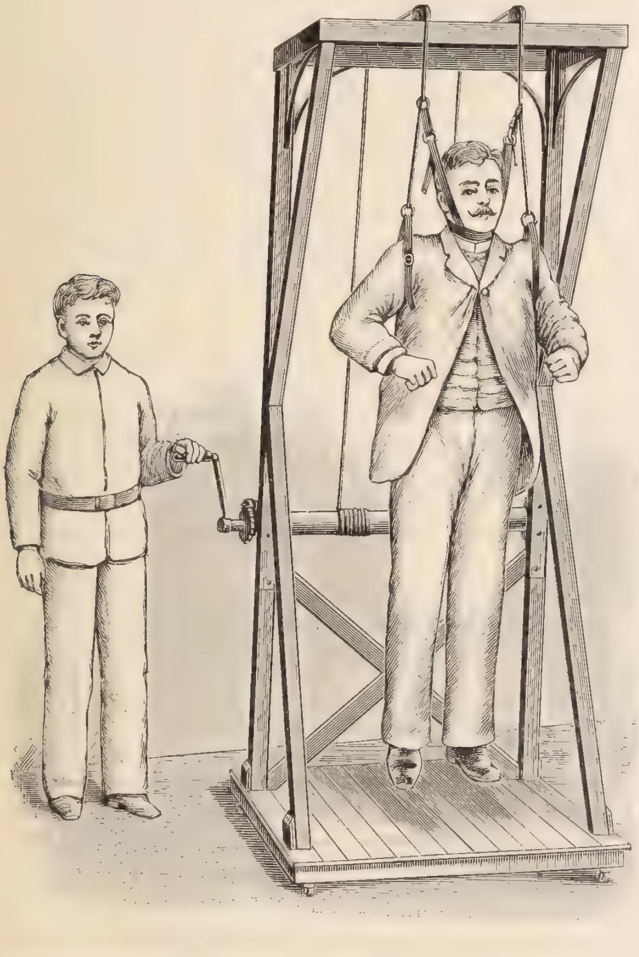
# THE TREATMENT OF LOCOMOTOR ATAXIA
## AND OTHER DISEASES OF THE NERVOUS SYSTEM
## BY SUSPENSION.

By WILLIAM A. HAMMOND, M. D.,
WASHINGTON, D. C.

The fact that locomotor ataxia can be mitigated in the severity of its symptoms, if not entirely cured, by suspension, was accidentally discovered by a Russian physician, Dr. Motchowkowsky, of Odessa, in 1883. While treating a patient for Pott's disease of the spine who at the same time was suffering from locomotor ataxia, he ascertained that after each suspension for the adjustment of the plaster jacket the ataxic symptoms were more or less relieved. He then applied it to other patients suffering from locomotor ataxia and found that in all considerable benefit was experienced. He found also that the sexual power of other patients was restored through this means. Dr. Motchowkowsky published a paper on the subject, but it, like many others announcing important discoveries to the medical profession, attracted no attention for several years—not, in fact, until 1888, when a French surgeon, Dr. Reymond, while visiting Odessa, obtained personal knowledge of the Russian physician's method. Returning to France, Dr. Reymond brought the matter to the attention of Professor Charcot, who at once put this system of treatment in operation. On the 15th of January, in a clinical lecture at the Salpêtrière, M. Charcot stated that for several months he had been experimenting in cases of locomotor ataxia with the new method of treatment, and that he had obtained remarkable results.

No publication of either Motchowkowsky's or Charcot's observations was made in this country until the latter part of February, when a short cablegram on the subject appeared in the New York "Herald"; this was followed in a few days by a more detailed account.

Immediately on reading the first notice in the "Herald" I had an apparatus constructed so that I could make use of the method for several ataxic patients in my sanitarium. The accompanying wood-cut, made from a photograph, will give a better idea of the arrangement than any description. It is intended that ordinarily about one third of the weight of the body should be supported by the head-gear and the other two thirds by the arms; but I have sometimes found it expedient to vary this proportion according to circumstances. I am inclined to think that the most beneficial results are obtained in severe cases by increasing the weight borne by the neck. Care, however, must be exercised in so doing, for I have several times found that vertigo was produced and that the patient had to be immediately let down.



Though perfectly safe when due care is exercised, suspension should never be made use of except under the immediate supervision of a physician.

I have employed the method in five cases. In all, the most marked benefit has been experienced. The electric-like pains have disappeared in every case. The inco-ordination has been so far relieved that while, when the treatment was begun, the patients could not stand for a second with the eyes closed, they now do so without difficulty for an indefinite length of time. In one patient in whom there was continual incontinence of urine this condition disappeared after three suspensions. The sexual power, which was markedly diminished in all, is evidently being restored. In one case, that of a gentleman from Pennsylvania, there were almost constant vertigo and pain in the head, but these symptoms are no longer manifested.

While, of course, it is too soon yet to speak definitely in regard to curing locomotor ataxia by suspension, I am well satisfied with the results thus far obtained, and I hope ere long to speak even more decidedly on the subject. I may add that I am treating one case of antero-lateral sclerosis by the process, and that there has been satisfactory improvement in all the essential symptoms.

In two cases of functional impotence decided evidences of amelioration were shown after three suspensions, and the improvement has continued up to the present time.

One minute is a long enough period for the first suspension, and this may be increased from five to ten seconds each time subsequently. I have thus far carried it up to three minutes; I shall probably go very much further than this.

Relative to the *modus operandi* of suspension in the treatment of locomotor ataxia and other affections, I presume it acts by stretching the spinal cord, but why this should be beneficial it is impossible for us to say in the present state of our knowledge. Several years ago stretching the sciatic nerve was in vogue as a means of treating locomotor ataxia, and I several times performed the operation with the effect of relieving the pains and improving the co-ordination, but the relief was not permanent. In several clinical lectures I pointed out the fact that in order to be of any service the sciatic nerve should be stretched so as to pull upon the spinal cord and to stretch it. In some remarks before a meeting of the American Neurological Association I insisted upon this point, and stated that I had satisfied myself by experiments upon animals that the spinal cord could be stretched by pulling on the sciatic nerve. I did not, however, attempt to obtain this result by the method hit upon by Motchowkowsky and which promises to be a much more efficient means of effecting the object.

It is necessary to state that in no case was suspension the only means relied upon for the treatment of locomotor ataxia or the other diseases mentioned, but I am only at present writing of this particular method, and not of their therapeutics in general.

Of the accidents that may attend upon suspension, I have already referred to vertigo. In one case the power of motion was lost in both arms after a suspension of two minutes. The patient did not weigh over a hundred and twenty pounds, and yet the pressure upon the axillary plexus was sufficient to cause the result mentioned. The paralysis, however, disappeared in two or three days under the use of electricity and massage.

It is proper to state that in the construction of the apparatus and for valuable suggestions relative to its management, as well as for its practical application, I am indebted to Dr. E. L. Tompkins, the resident physician of the sanitarium.

Since the foregoing was written I have considerably modified the method by which I employ suspension as a therapeutic agent. Convinced that the spinal cord can only be stretched by force being applied to the neck and head, I dispense with the arm supports altogether and hang the patient up entirely by the chin and occiput. The rings attached to the straps by which these parts are supported are passed through the hook of a spring balance, so that when traction is made I know just how many pounds are applied. In the beginning of the treatment I do not raise the patient entirely from his feet, but exert a tractive power of from seventy-five to one hundred pounds, as the case may be. From day to day this is increased, until at last the whole weight of the body draws upon the spring-balance. I should not hesitate if the body was of light weight to attach weights to the feet or fasten them to the floor. It has been clearly shown that by this modified method, as I have employed it, improvement is much more rapid than when a portion of the weight is taken off by the arms. A body supported wholly or in part by the arms causes no stretching whatever of the spinal cord. A man might hang from his elbows or his armpits or his hands indefinitely, without the cord being affected in the slightest degree. I have one patient now in my sanitarium who has been subject to locomotor ataxia for several years, who has been under treatment for about six weeks, and who is now free from any symptom of the disease whatever, except contracted pupils, absence of the patella-tendon reflex, and a slight degree of incontinence of urine. This latter symptom is gradually disappearing. He is now being suspended from the chin and occiput for ten minutes daily, and his weight is one hundred and thirty-eight pounds.

Of course, the utmost possible care must be used to adjust the straps properly and to apply traction gradually. Several persons, to my knowledge the subjects of locomotor ataxia, are treating themselves by the methods of suspension. I am quite confident that we shall some day hear that a neck has been dislocated and sudden death produced by the unskillful use of this method.

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# THE INFLUENCE ON A NASO-PHARYNGEAL GROWTH OF SIMULTANEOUS LIGATURE OF THE EXTERNAL CAROTIDS.*

By JOSEPH D. BRYANT, M. D.

The case that forms the basis of this paper is thought by the writer to be of sufficient interest to entitle it to a brief consideration, at least, by the members of this society. At a previous meeting of this society, held in the early part of the year 1887, it was both a duty and pleasure for me to present a paper entitled "Three Cases of Ligature of the External Carotid, in Two of which Both Vessels were tied simultaneously."

In that paper eighty-three cases of ligature of the external carotid were collected, in not one of which had the patient died from hæmorrhage at the seat of the ligature. Of the eighty-three cases, in but three had the patient died, and in but one of these (my own) could death be reasonably attributed to the operation alone. Since this case is one of unusual interest by reason of the origin of the facial artery from the point of bifurcation of the common carotid usually allotted to the superior thyreoid artery, for which vessel it was mistaken at the time of the operation, I will briefly state it again.

The patient was suffering from extensive carcinoma of the lower jaw and floor of the mouth, attended with severe pain and much difficulty in swallowing and speaking. The external carotids were ligated simultaneously. The malignant growth diminished rapidly in size, the pain ceased, and the ability to swallow and to speak was also markedly improved. On the fifth day following the operation a slough occurred on the right side at the former situation of the submaxillary gland, and extended down to the diseased lower jaw. On the ninth day after the operation the patient died from the effects of a hæmorrhage from the seat of the slough.

As implied but a moment ago, the submaxillary gland had been removed some time before the ligature of the carotids, on account of involvement from the primary seat of the disease.

The removal of the gland at that time required the ligature of the facial artery *before* the giving off of the branches that are distributed to the tissues contiguous to it, and for this reason the tissues about the stump of the remaining —the cervical—portion of the vessel depended on other sources than the right facial for their nutrition, and the same can also be said of the extreme end of the arterial stump itself.

In my observations no instance of a similar abnormity of the facial has occurred, nor does anatomical literature, so far as I have been able to ascertain, present a parallel instance.

The propositions then submitted to the consideration of the society were the following:

1. Ligature of the external carotid artery, together with independent ligature of the branches arising from the first inch of its course, is a safe and commendable operation.

I can now report eighty-six cases of ligature of this vessel (seven of which are my own), and in this number but one death can be justly attributed to the operation, and even this one was due to an abnormity heretofore unobserved. Surely this exhibit is sufficient to entirely warrant the establishment of the first proposition.

2. When the facial and lingual arteries do not arise singly or by a common trunk from the first inch of the course of the external carotid, the branches arising at the point of the bifurcation should be tied.

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* Read before the New York Surgical Society, March 13, 1889.

The reason for the latter part of this proposition is obvious when the unparalleled origin of the facial in the fatal case just described is considered.

3. Simultaneous ligature of both external carotids is a rational preparatory measure for operations involving the parts supplied by their branches when dangerous hæmorrhage is feared. If the pharynx is involved, the ascending pharyngeal branches should be ligated also.

In connection with the case which is to follow I did not ligature the pharyngeal branches, since their presence could not be determined with a reasonable degree of celerity and manipulation.

4. Simultaneous ligature may be advisable to diminish the rapidity of the development of extensive malignant growths when they are nourished by the branches of the external carotids.

5. Ligature of one or both of the external carotids for the cure of anastomosing aneurysmal formations of the branches of the same is not feasible as an independent curative measure.

6. Ligature of the common carotid should not be done for the cure or for the arrest of morbid conditions involving the external carotid or its terminal branches, except as a final resort.

Each of the propositions that were submitted at that time has now been stated. To-night, however, we have to deal only with the third and fourth of the series, and I now beg leave to submit some of the steps of the treatment of the following case to your consideration as exemplifying their presumptive worth at least:

W. B., aged twenty-two, single, printer, family and personal histories good. In 1884 B. noticed the usual symptoms indicative of the existence of a polypoid obstruction of the left nostril. In 1885 the actual existence of such a growth was demonstrated by a medical gentleman, who soon after removed a portion of it with forceps. From this time until 1888 portions of the growth were removed at varying intervals with forceps and snare; and during this time, too, the extent of the attachment and the nature of the growth were frequently determined. It was a myxo-sarcoma, as determined by microscopical examinations. It was attached to the basilar process of the occipital bone, to the posterior and left wall of the pharynx, also to the palate bone and the internal pterygoid plate of the sphenoid bone. In November, 1886, a spontaneous and very severe hæmorrhage occurred from it.

At this time the growth was increasing in size more rapidly. A little later a second and severer hæmorrhage occurred; this, too, was spontaneous and was checked only after the anterior nares and the pharynx were tamponed. In fact, the patient was nearly exsanguinated by this loss of blood. In February, 1888, a third attack occurred at night, which was arrested in the similar manner as the preceding. This attack confined the patient in bed for eight days.

As before remarked, the growth had been operated upon repeatedly with snare and forceps with varying success, but sufficient at least to limit the extent of it substantially to the pharyngeal vault. In no instance, so far as I am informed, did the manipulation of the growth bear a causative relation to the severe hæmorrhage.

On May 5, 1888, the patient suffered more severely than usual from pressure symptoms referable to the hard and soft palate, and also to the supramaxillary and auriculo-temporal branches of the fifth pair. For months before this time, and with increasing severity, pain had existed in the pharynx. At this time the patient could not breathe through the nostrils. The tumor filled the upper part of the pharynx so completely that the index finger could be introduced only with difficulty between it and the right side of the wall of the cavity, and the act was often followed by quite severe temporary hæmorrhage. The pressure of the growth on the hard and soft palate caused a well-marked inferior convexity of these structures, especially of the latter. A small bony spiculum was seen protruding from the inferior surface of the soft palate at the junction of this structure with the hard palate. Anodynes were required at this time to quiet the patient, and often to insure sleep on account of pain and nervous irritation. The appetite decreased; marked and increasing emaciation was apparent. The patient now refused further attempts with the snare and begged for a radical operation—which had been promised him—irrespective of the outcome.

Recalling the fourth proposition of the series—a proposition that had met with not a little adverse criticism from the members of this society at the time of its presentation—I determined to carry it into effect at once.

Therefore, on June 19, 1888, the external carotids were ligated simultaneously in the presence of many of the house staff of Bellevue Hospital. The wounds healed by primary union. At the end of a week all pain had ceased and the size of the tumor had diminished to such a degree that not only had the previous bulging of the palate caused by it disappeared, but the index finger could easily explore the dimensions and determine again the attachments of the growth. And, too, these examinations were followed by slight oozing only, barely sufficient to discolor the finger. Surely these facts appear to justify the validity of the fourth proposition as applied to this case. On the 28th of June the left superior maxilla was removed below the orbital plate, thus exposing freely the left side of the tumor quite completely. And, although the bone was removed nine days after the ligating of the external carotids, but one arterial spurt of sufficient size to require ligature occurred during the entire procedure, and this was at the situation of the anastomosis of the facial and ophthalmic arteries. This, the second step of the procedure, appears to establish, so far as a single case can, the importance of the third proposition of the series.

The final step—the step that would have completed the practical test of the application of the third proposition in this case—would have been the removal of the tumor at once. However, this was not done, nor can I now say that I regret the omission, in view of the subsequent developments. The reasons for the non-removal were politic ones entirely, and foreign to any contingency that was apprehended from the attempt.

The snare was employed again, and also strong injections of carbolic acid. The latter removed portions of the structure of the growth quite rapidly by a process of inoffensive sloughing and disintegration. Finally the injection caused such a severe pain that the use of it was discontinued. For the last three months the growth has diminished slowly in size without treatment of any kind. The patient suffers but little inconvenience and no pain whatever from the tumor.

I now intend to watch the retrogression of the growth as long as it may continue, but if any increase of the present dimensions occurs, or if annoying symptoms arise again, it will be removed at once.

It is not my intention to enter into direct or indirect theorizing as to whether or not the circulation of a growth, malignant or other, has to do directly with the development of that growth. While it is true that theories are ingenious means often employed to push aside the veil of mystery that frequently hides important facts from incredulous minds, still it is equally true that theories not supported by facts, while they may be interesting as toys, are none the less dangerous as guides.

In this case the results on the pharyngeal growth that followed ligature of the external carotids were due either to coincidence or to modification of the circulation of the growth. The fact that a rapid diminution of the size and painfulness of the tumor followed ligature is indisputable, and seems to me to remove these results from the realm of coincidence entirely. The fact that the regions occupied by the growth are supplied principally by branches of the external carotids is too well established to entitle it to the dignity of a defense.

The fact that the lessening of the arterial supply of a vascular growth will diminish, temporarily at least, its size, and consequently the pain due to pressure from it, must also be admitted.

These facts conceded, it follows that the third proposition is supported by this case at least.

As to the causes for the continued decrease in the size of the growth I am uncertain.

Surely the establishment of collateral circulation should have long ere this supplied it with a liberal allowance of blood, irrespective of its inherent demand for this fluid. If the cell activity, from malignancy or another reason, had been greater at the onset, the effects of the ligation on it would have been, no doubt, exceedingly transient. It is possible that the use of the carbolic-acid injection and the snare since the ligation has led to continued retrogression of the tumor. However, the snaring had no such effect before the ligation, and it is therefore unfair to attribute it to snaring *after* ligation. The early and somewhat liberal use of carbolic-acid injections *may* have caused condensation of the tissues of the growth, modified the nature of it, or otherwise discouraged the development; or is the change due to coincidence entirely? It is not worth while to assert that ligation of the external carotids will diminish in a very large degree the loss of blood following removal of the superior maxilla. This case showed it conclusively. Equal amounts of anatomical knowledge and of common sense will be convincing in this respect without actual demonstration. However, it is important to consider whether or not it is advisable to ligate the external carotids simultaneously before removal of a superior maxilla as a preliminary to a direct attack on a pharyngeal growth.

It is my opinion that this should be done, for the following reasons:

1. The loss of blood attending the preliminary act of removal of the superior maxilla will then be reduced to a minimum.

2. The amount of blood going to the pharyngeal growth will be temporarily reduced to a minimum at the same time by ligating the vessels that principally supply the structures from which it springs.

3. Ligature of the external carotids simultaneously can be done quickly and without difficulty, and is not attended with any special danger to the patient.

4. Operations for removal of pharyngeal growths are attended by great mortality from the immediate loss of blood; hence the advisability of a step that lessens the loss of blood while it exposes the patient to no unusual danger.

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# CEREBRO-SPINAL DECUSSATIONS,

## WITH PARTICULAR REFERENCE TO THE MOTOR TRACT.

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EXTREME views are always characteristic of the earliest advances in science, but calmer reasoning and closer investigation soon put to flight the exaggerations common to the first successes and afford us truths more in consonance with the facts of nature. Our knowledge in regard to the cerebro-spinal localizations is already passing through its refining stage. It is well known that even at the present day there are three distinct schools in regard to these localizations. Goltz, following the teachings of Flourens, believes that the cerebro-spinal center is a *single uniform* organ and that its component parts, brain and cord, can only act as a whole. On the other hand, the views of Ferrier, Luys, Munk, and their followers, are that certain clearly defined areas can be mapped out, these areas being capable of certain special forms of activity, and therefore constituting the brain, in the strictest sense of the word, a *composite* organ. The most recent physiological and pathological investigations are discovering the truth contained in both of these opposing views and inclining us to follow the teachings of Exner and Luciani, who believe that there are certain special centers and tracts concerned in certain special forms of activity, but that there is such an overlapping and intimate communication among them as to produce a more uniform action throughout all parts of the brain and cord than would be inferred from the teachings of Ferrier and his followers. Hence there are no distinct boundaries between the motor and sensory areas of the cerebro-spinal axis; for, while there are certain foci, so to speak, with their greatest intensity concentrated in a small spot, this intensity diminishing with the lines of radiation into the neighboring nerve-protoplasm, the marginal overlapping and close communication between these various foci are such as to cause a most delicate harmony of action between the various parts of the central nervous system.

Clinical observation has already pretty clearly established the fact that the center for the *muscular sense* is most intimately involved in, if indeed it is not identical with, the cortical motor centers. The centers for sight and speech, both motor and sensory, it must be admitted are more intimately connected in many ways than we have hitherto been taught, to explain the many anomalous and concomitant symptoms resulting from very definitely defined lesions within them. In the ordinary form of aphasia, it is a familiar fact that, by education through the ear, eye, and hand-movements, the right speech-center can be quickly made to assume its appropriate function, whereas before the injury it took the left speech-center many months, and even years, to acquire the same facility. It is possible, though hardly probable, that the right speech-center was being educated at the same time as the left, though ordinarily the left only is put into use. However we may regard this, clinical observation proves the extreme intimacy, if not partial identity, of these various centers for speech (right and left), sight, hearing, and manual movements. Note the juxtaposition of the centers for the sense of sight and the movements of the eyeball. Certain prominent foci, of course, can be indicated as the points of maximum intensity for these, respectively, but an injury to one has not far to extend, and in a few cases not at all, before the other manifests symptoms of involvement.

How intimate must be the connection between the sensory centers of the two hemispheres, if indeed there is not a partial identity between them in relation to corresponding parts of the body, to explain in hysteria the singular but real transference of various sensory symptoms from one part of the body to another! And this is not an uncommon phenomenon by any means.

Much of the difficulty in determining the precise functions of certain tracts in the cord is doubtless due to the fact of overlooking the close connection there may be between them. Thus Brown-Séquard believed that the anterior columns carried some fibers of sensation. This was disputed by Ott, who also objected to Schiff's statement that, in regard to the gray matter of the cord as a medium of conduction, sensory impulses may be carried in all directions. But Starr has partly confirmed Schiff's idea after experimenting upon animals (Ranney). Doubtless before long we will learn that though there are in the cord special fibers for the conduction of afferent and efferent impulses, their mutual relation is so close through the gray matter, as is already partly shown by the reflex phenomenon, that we must regard the cord more as a unit than has been recently done. We will have to consider it not simply as a conveniently condensed bundle of motor and sensory fibers, capable of distinct separation into its component parts, a sort of underground set of wires packed away out of sight and danger within the vertebral column. Its architecture is far more complex than this.

We find in the *Articulata* that each bodily segment has a double ganglion; that these ganglia are connected together by nervous fibers, running parallel with the caudo-cephalic axis of the animal; that the ganglia of the segments to which the limbs are attached are much larger than the others; and, finally, that the ganglion which occupies the position most frontad has in connection with it the nerves of special sense, and thus, to a certain extent, assumes the function of a brain. Now, if we remember that man himself is practically an articulate—for, as Owen says, every vertebrate is but a clothed sum of segments—we can form a general conception of the structure of the spinal cord.

In the first place, we can conceive of it as a series of discs resting upon each other, each disc giving origin to four nerve-roots—two motor, anteriorly; two sensory, posteriorly. In the center of each disc is a ganglionic mass, the so-called gray substance of the centrum and cornua of the cord. Each of these discs is capable of exercising an independent automatic control over that part of the body to which its four sets of nerve-fibers proceed. But these spinal dics are intimately connected with each other, just as the various parts of the brain are, by associating fibers. These associating fibers constitute the chief part of Burdach's columns, the anterior columns exclusive of the direct pyramidal tract, and the lateral columns exclusive of the crossed pyramidal and direct cerebellar tracts. None of these fibers exhibit the Wallerian degeneration, and are therefore supposed to be connected with nutritive cells at both of their extremities. Some physiologists assert that they connect the gray matter of the cord with that of the medulla. At any rate, they belong integrally to the cord, and correspond in a general way to the fibers connecting the series of ganglia making up the nervous system of the articulates. It is doubtful if there is any direct decussation of these commissural fibers; but, as they connect cells upon the same side of the cord, and as these cells are transversely connected by means of their processes through the gray commissure, a sort of decussation finally obtains.

The remaining columns of the cord connect these various segments with the higher centers of the brain. Here the vertebrates begin to exhibit the superiority in their nervous structures over the articulates. These fibers, *sensory* and *motor*, are of various lengths, since they start at the same level—namely, the cerebral cortex—and terminate in the cellular structure of the various superimposed segments of the cord. The afferent or sensory transmissions proceed along the columns of Goll, through the gray matter, and possibly in the anterior part of the lateral columns. It is pretty clearly established now that the fibers conveying these afferent impulses decussate soon after their emergence from the posterior nerve-roots into the gray matter, where they cross over to the opposite side through the gray commissure. Hence they decussate all the way up and down the cord.

The efferent or motor impulses are believed to be confined to the uncrossed and crossed pyramidal tracts only. The fibers of Türck's column extend usually only midway down the cord, and, before terminating in the cells of the anterior cornua, cross over to the opposite side through the anterior white commissure; hence they decussate up and down the cord. The crossed pyramidal tract, it has long been known, decussates at the lower part of the anterior pyramids of the medulla. According to the general view, therefore, the entire motor tract decussates before it reaches its terminations in the motor cells of the anterior cornua. But, just as we said in regard to the commissural fibers of the cord undergoing a sort of decussation through the transverse connections of the cellular structures, so here a sort of redecussation, if we may be allowed the expression, is accomplished for the motor fibers. This may in part explain some of the anomalous motor symptoms which sometimes appear in the unparalyzed limbs in cases of typical hemiplegia. At any rate, it demonstrates the intimate connection between the various parts of the cord, as well as the fact of its general unity as an organ.

The cerebro-spinal system of nerves, therefore, is made up of two great divisions, while each of these divisions is again subdivided into certain component parts. The first of the prime divisions consists of the brain or voluntary center with its spinal fibers connecting it with the cells of the spinal cord. The second consists of the cellular structure of the cord or automatic center and its nerve-root fibers connecting it with the outlying parts of the body. The former of these divisions is again capable of subdivision into motor and sensory centers, all intimately connected, and probably more or less mutually involved by certain associating or commissural fibers. The latter is also capable of a subdivision into a fixed number of superimposed segments, each of which contains motor and sensory elements also intimately connected and more or less mutually involved by certain associating or commissural fibers. Thus we are beginning to recognize the functional localizations within the cerebro-spinal axis; but we are also learning that so intimately connected are all these parts that no one of them can be affected without the others becoming sooner or later involved.

In the last number of the "Archives de physiologie" Brown-Séquard brings forward some strong arguments, based upon physiological and pathological observations, to prove that not all the fibers of the motor tract decussate, as is generally supposed, but that some of these fibers must necessarily connect the same sides of the brain and cord. There are two general opinions held concerning the place of decussation of the motor tracts. The one, recognizing that section of one lateral half of the medulla above the decussation of the anterior pyramids causes paralysis on the same side, is that the motor fibers cross above the medulla, and, from various other data, it is believed that this crossing occurs within the pons. On the other hand, those who reason from the results of pathological observation and descending degenerations maintain that the decussation occurs in the lower part of the medulla in the anterior pyramids. Finally, a few support the view that the motor fibers, like the sensory, decussate up and down the entire length of the cord. Hence, that there is a complete decussation of the motor tract, is the point of agreement in all these views, and doubtless it is true so far as the main mass of the tract is concerned, and in the vast majority of individuals. A cortical lesion, therefore, produces hemiplegia of the opposite side, but cases have been frequently reported in which the autopsy showed the lesion to be upon the same side as the paralysis. Flechsig's explanation of such cases—that there was an unusual development of the direct pyramidal tract—is not satisfactory, firstly, because the number of cases reported with paralysis and lesion on the same side bear no proportional ratio to those in which Türck's columns have been found so unusually developed; and, secondly, because the general consensus of opinion to-day is that the fibers of Türck's column do decussate in the cord, and thus do not connect the same sides of the brain and body.

The following experiments of Brown-Séquard clearly establish the non-decussation of some of the motor fibers at least: After cutting the *right* crus or the *right* lateral half of the pons or medulla above the decussation of the pyramids, he found that galvanization of the *right* cortical motor area, instead of being absolutely powerless to cause movements of the *left* extremities, produced, on the contrary, more violent movements than before, or even the normal movements, if the galvanic excitation were less severe. Furthermore, Eugène Dupuy has found that, after section of the crura cerebri, galvanization of the cortical motor area of the same side is capable of producing an attack of epileptiform convulsions in the extremities of the opposite side, just as though the crus had not been cut ("Comptes rendus de la soc. de biol.," 1886, p. 19), a fact which Brown-Séquard has also noted many times. There seem to be but two explanations for this singular fact. The first is that there are other as yet unknown motor fibers connecting one side of the brain with the opposite side of the cord than those which pass through the cerebral crura. This is the least plausible. The second is that by means of the cerebral commissural fibers the irritation upon one side of the brain is transferred to the corresponding parts of the opposite side, and there affects the corresponding motor cells. This explanation would include the fact that upon the side thus secondarily affected there were direct motor fibers connecting that side of the brain with the corresponding side of the cord, but it would fail to explain the absence of symptoms on the opposite side of the body, or, in other words, the same side of the body corresponding with the hemisphere primarily irritated.

Again, irritation of various parts of the base of the brain on one side, either by incision, puncture, or galvanization with the poles in close proximity to each other, caused movements upon the same side of the body instead of producing them only upon the opposite side. The experiment was still further modified thus: After exposing the anterior surface of the medulla and irritating or galvanizing each of the anterior pyramids in the rabbit, cat, dog, monkey, and other creatures, distinct movements resulted nine times out of ten in the limbs of the corresponding side. Finally, transverse sections were made, for instance, in the right lateral half of the medulla, at different levels a short distance apart, in such a way that the intermediate portion could be removed for the exposure of two surfaces to be acted upon. Mechanical irritation or galvanization—sometimes of one surface, sometimes of the other—gave the same results in both instances; nine times out of ten it was the *right* anterior limb alone or the two *right* limbs that manifested movement. According to Brown-Séquard, in both these cases—that is to say, when the irritation was made now upon the inferior and now upon the superior exposed surface—it was transferred from the *right* to the *left* side of the encephalon, and from thence to the *right* side of the cord and so to the muscles of the right limbs.

These experiments seem to prove, therefore, that when the motor tract from one half of the brain is severed anywhere within the crus, pons, or medulla above the anterior pyramids, the parts in which physiologists usually locate the decussation of its fibers, excitation of the cortical motor area of one hemisphere is nevertheless capable of causing movements upon the same side of the body. The impulse is most probably transmitted directly to the opposite hemisphere and thence down the cord through the crossed and uncrossed columns to the corresponding nerve-fibers. It is an instance of reflex activity; but what is remarkable about it is that the *motor* as well as the *sensory* centers within the fourth ventricle and other parts of the pons and medulla should act precisely alike as to the side upon which the movements occur. It is rather singular that the presence of purely motor nerve-fibers has never been revealed in these localities.

Three striking conclusions may be drawn from these experiments:

I. All the fibers composing the motor tract within the cerebro-spinal axis do not decussate. Some of them at least connect corresponding sides of the brain, cord, and nerve-roots.

II. Motor fibers are probably intermingled with sensory in those parts of the pons and medulla formerly supposed to be given to sensory functions solely.

III. Irritative lesions upon one side of the brain can so affect the corresponding part of the opposite half as to produce the appropriate symptoms upon the same side of the body as the half of the brain originally affected. This affords us an explanation of the hemiplegia upon the opposite side with paresis of the same side in unilateral cerebral lesions. It furthermore tends to demonstrate what we spoke of in the beginning in regard to the extreme intimacy and unity of action between all parts of the central nervous system.

These views have a clinical as well as an experimental basis. We have already indicated one of the phenomena frequently accompanying ordinary hemiplegia. Brown-Séquard himself cites seventeen cases reported by distinguished American, British, French, and Dutch physicians, along with the post-mortem revelations in each particular instance. Though the lesions were not all of the same nature in these seventeen cases, the results, so far as the motor and sensory symptoms were concerned, corresponded so closely that we will here only present the one that impressed us most forcibly, and leave the reader to study the others as they are found in Brown-Séquard's own paper ("Arch. de physiologie," 1889, Nos. 1, 2, p. 219):

CASE I.—Reported by Dr. A. T. H. Waters, of Liverpool, and printed in the "Transactions of the Medico-chirurgical Society," London, vol. xlvi, 1863, p. 116.

A sailor, twenty-three years of age, received a blow upon the *left* side of the face from one of the bars of the windlass. Lifted off his feet by the blow, he fell upon his back. The next day he answered all questions rationally, but his articulation was imperfect. He complained of numbness in the face and limbs of the *right* side. He could not swallow, hiccough was frequent, respiration even, pulse 100 and regular. The tongue protruded to the *right*, but the uvula was drawn to the *left*. There was a partial loss of motor power in the face and limbs of the right side. He had no difficulty in opening and closing his eyes; the pupils were abnormally dilated, and there was nystagmus. The temperature of the face and limbs of the *right* side was clearly higher than that of the opposite side. He declared he felt distinctly when his foot, leg, arm, or both sides of his face were touched. But the sensibility everywhere seemed less perfect upon the *right* than upon the *left* side. Deglutition was impossible, and there was vomiting. He was able to sit up in bed; but he fell, and died very suddenly twenty-four hours after the accident.

*Autopsy* was made twenty-four hours after death. There was no fracture; the cerebrum was intact; there was no serous effusion; a considerable quantity of colored fluid was found at the base of the brain and in the spinal canal. The *right* cerebellar hemisphere was slightly lacerated where it rests upon the medulla, which exhibited upon the *right* side and upon the posterior surface an extravasation of blood beneath the pia mater and within the restiform body. The extravasated blood extended about an inch and a quarter up and down, but not continuously. The restiform body exhibited a transverse laceration, extending almost to the median line of the fourth ventricle, and externally to the line of origin of the pneumogastric nerve. There was an infiltration of blood into the parts surrounding the laceration. The tear involved the fibers of the restiform body (*right*) and a part of the gray matter of the fourth ventricle. The roots of the pneumogastric were not injured, but the laceration being so near to these roots as well as those of the glosso-pharyngeal, some fibers of these nerves within the medulla were injured. Another rent, smaller than the preceding, was discovered near the calamus scriptorius, to the right of and a little below it, or half an inch from the superior laceration. It had cut the posterior pyramid and neighboring column, which is the continuation of the posterior column of the spinal cord. It extended from the median line to the line of insertion of the spinal nerve-roots. Here there was much less blood than in the upper laceration. An internal laceration extended from one to the other of these tears just described, passing along the internal border of the restiform body.

In this case the lower part of the lesion was situated too high up and too superficially to have involved the fibers coming off from the *left* anterior pyramid. It included the posterior part of the *right* lateral column of the cervical part of the cord. Hence we may conclude from this case that the so-called non-motor parts of the medulla are capable of producing a paralysis of the limbs, and that the medulla can be the central origin of a *direct* paralysis. In the remaining sixteen cases, as in this one, the lesion was situated outside of the usual motor tract, and yet in all there was a paralysis or paresis of the same side of the body.

In Case II a tumor occupied the whole *right* half of the medulla, excepting a part of the anterior pyramid. Furthermore, it extended into the *left* half of the medulla, destroying the posterior pyramid and a part of the restiform body as well as the gray matter at the level of and just above the calamus scriptorius. This is exquisitely illustrated by a plate accompanying the report. Here the right half of the medulla was destroyed, with the exception of a part of the anterior pyramid, and yet there was paralysis upon the right side, with preservation of movement upon the left. The position of the tumor having caused a destruction of the decussating fibers of the two anterior pyramids, we should have expected an incomplete paralysis upon both sides of the body, upon the ground that the direct columns still remained intact, and, as is believed by some, they did not decussate in the cord. A tumor in Case IV pressed upon one of the anterior pyramids and the corresponding lateral column of the medulla, and still the paralysis was limited to the same side. Vulpian's case, reported by Hallopeau (No. V), manifested a paralysis of the *right* side as the result of softening, and the formation of a cavity in the *right* side of the medulla. Embolic obstruction of the *left* vertebral artery determined a *left-sided* hemiplegia, followed by ataxia as the result of cerebellar softening in the case (VIII) examined by Charcot. And so on for the rest of the cases, a lesion upon one side of the base of the brain resulted in motor phenomena upon the same side of the body.

From these proofs Brown-Séquard himself concludes that those parts supposed to be non-motor are nevertheless capable of producing paralysis; secondly, that destructive lesions, and very considerable ones, too, sometimes, of the supposed motor areas of the medulla and pons can not give rise to paralysis of the limbs; thirdly, that paralyses which are usually very slight but occasionally very pronounced, if not complete, may and can appear upon the same side as the lesion when the latter is in the posterior or lateral part of the medulla, in the interior of this nervous center, or even in the anterior pyramid; fourthly, that not only do irritative tumors determine these direct paralyses, since, in many of the cases, they resulted from ischæmia, softening, and destructive hæmorrhages; and, fifthly, that we can not admit that these direct paralyses have depended upon lesions elsewhere than in the medulla, since in a certain number of the cases the medulla alone was affected.

It is quite insufficient, for many obvious reasons, to assert that in *all* of these cases there was no decussation of the anterior pyramids. The proportion of cases exhibiting direct paralysis to those exhibiting the indirect with disease of the cerebral lobes is as one to a thousand, while the same proportion with disease of the medulla is as more than a thousand to a thousand. Hence, to declare that in such cases as those just cited there was no decussation of the pyramids is to admit the absurdity that persons without this decussation always escape cerebral organic lesions.

Hence, according to this author again, these clinical cases show that paralysis is not only due to destruction of nerve-tissue, but that the irritation of the nervous elements in the immediate neighborhood of the lesion is propagated to a distance, and there involves the nervous elements endowed with motor properties. These properties thereupon disappear, causing, through inhibitory influence, a loss of the power upon which the motor function of these cells and fibers depends. This he promises to elaborate in a future paper.

But the more immediate conclusions to be drawn from these clinical cases are about the same as those which we drew from the experiments of this distinguished physiologist. Remembering, then, the probability of certain direct fasciculi constituting a part of the motor tract at least, and the involvement of other corresponding parts of the encephalon when some particular part is injured, as well as the partial intermingling of sensory and motor areas, we shall doubtless be able to explain many of the frequent anomalous and secondary symptoms accompanying those more typical of unilateral lesions within the cerebro-spinal axis.

1938 NORTH BROAD STREET.

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**The Newport Meeting of the American Medical Association.**—For the accommodation of exhibitors at the next meeting, June 25th, the local committee of arrangements has decided to erect a one story frame building. It will be built on the lot adjoining that upon which the hall in which the general sessions are to be held, stands.

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## SPIRIT OF NITROUS ETHER.

By EMLEN PAINTER, PH. G.

It is a well-known fact that spirit of nitrous ether as found in the market is one of the most variable products used in medicine. Besides being deficient in the strength of its peculiar ether, it is always to a greater or less degree contaminated with other compounds, even when made strictly after the official process and by the most skillful operator.

It is also held that other constituents of this preparation besides the ether perform a more or less important part in its physiological effect, and I have heard on good authority that spirit of nitrous ether which contained merely a trace of this ether still produced in a considerable degree the peculiar effects ascribed to this preparation.

The questions now arise, To what constituent or constituents of spiritus ætheris nitrosi of the pharmacopœia is its medicinal effect due? Are the other compounds aside from nitrous ether essential to its producing the desired result, and, if so, which of the other constituents, and in what proportion?

The aim in changing the official method of preparing this spirit from time to time appears to have been to make a product approaching more nearly to *pure* nitrous ether. Hence the official and other assay processes which have been introduced for determining the strength and value of specimens of spirit of nitrous ether are all based upon the determination of the real nitrous ether present; by which it is implied that this ether alone is the medicinal agent desired. But if this is true, why have all the different pharmacopœias, as well as all the different manufacturers of this important and so universally used remedy, continued to employ such methods in its manufacture as can not yield a pure product? Besides, it is well known that the different processes employed necessarily yield products variable in the quantity of this ether, as well as in the quality of aldehyde and other by-products contaminating the finished preparation. The reason of this is that all methods now in practical use involve the direct action between nitric acid and alcohol, which not only produces nitrous ether, but also invariably produces aldehyde,* and the change in temperature as the operation progresses, the change in strength of the acid and of the alcohol, produce various and varying compounds, which distill with the ether more or less, contaminating the final product.

In addition to nitrous ether and aldehyde, different experimenters have found spirit of nitrous ether to contain acetic acid, acetic ether, hydrocyanic acid, and nitrogen acids, the latter resulting, no doubt, from decomposition of the nitrous ether.

That pure nitrous ether can be readily prepared has been fully demonstrated by Professor Dunstan in an article recently published in the "Pharmaceutical Journal" for April 14, 1888, and by other experimenters. I have tried Professor Dunstan's method with satisfactory results, and more recently I have employed the method described by myself, in a paper read before the American Pharmaceutical Association in 1886, which also works quite satisfactorily. The last-mentioned process yields a pure product, is more economical, and, with slight modification, is well adapted to a manufacturing scale.

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* See article by the writer, "Proc. of the Am. Pharm. Assoc.," 1886, p. 61.

I have made a number of experimental batches of pure nitrous ether, and from this prepared a spirit containing five per cent. of this ether (the official strength). I shall be pleased to furnish samples of this product, free of cost, to any physician who will give it a trial, confidently anticipating that the results will be equal, if not superior, to those obtained by the use of the best samples of commercial spirit of nitrous ether. Should the results, however, prove less satisfactory than expected, I propose a mixture of pure nitrous ether and aldehyde in definite proportions—for instance, a spirit containing four per cent. of the former and one per cent. of the latter. This mixture would doubtless come somewhat nearer in composition to the official spirit of nitrous ether.

It may appear desirable to the committee of revision of the U. S. Pharmacopœia to give a working formula for preparing spirit of *pure* nitrous ether, should it prove to be a more satisfactory therapeutic agent than the present official spirit.

In contradistinction between the official spirit of nitrous ether and the spirit of *pure* nitrous ether here suggested, I propose that for the present the latter be known by its chemical name — ethyl nitrite, five-per-cent. solution, or spirit of ethyl nitrite.

Broadway and Thirty-fourth Street, N. Y., *April, 1889.*

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## REMARKS ON
## PROLONGED GESTATION IN THE HUMAN FEMALE,

*With Notes of a Case extending over a Period of 334 Days.*

By L. MERVIN MAUS,
CAPTAIN AND ASSISTANT SURGEON, U. S. ARMY.

Probably there is no question among obstetrical observers that has elicited a greater variety of opinion from time immemorial than that of prolonged gestation in the human female. The principal difficulty, I presume, arises from the impossibility of securing reliable information concerning the date of insemination. Observation on this point, however, of a very reliable character among the lower creation—cattle, horses, swine, and sheep—where a single coitus could be noted, has established the great latitude in the length of normal pregnancies in animals, while isolated cases reported by many reliable practitioners have shown that prolonged gestations are also common to the human race. Ten lunar months, generally speaking, is regarded as the period necessary for the complete development of the human fœtus from the date of conception, at which time labor usually occurs. This fact was thoroughly recognized by Hippocrates, was incorporated in the Roman laws, and was frequently alluded to by the Latin poets. Notwithstanding the mass of testimony in support of prolonged human gestations, there are many eminent authorities who dispute the fact as well as instances in which the theory has been negatived in courts of justice. The French and Austrian laws admit of a contest for legitimacy in cases where the child is born 300 days after the dissolution of the marriage contract. The Prussians extend the period to 302 days, while the American and English laws have no fixed period, though the verdict rendered in the celebrated Gardener peerage case would make it appear that English accoucheurs at that date did not support the theory of prolonged gestation, especially when the period reached 311 days, as was maintained in the above-mentioned case. It may be interesting in this connection to briefly refer to a few recorded instances published by reliable authorities. Simpson mentions four cases occurring 336, 332, 324, and 319 days after cessation of the last menstrual periods. Allowing one week to elapse before conception in each of these four cases, we have gestations respectively terminating 329, 325, 317, and 312 days from conception. Faye cites two cases of 330 and 329 days from the date of coitus; Hodge one case which he thinks extended over 322 days; Hester one case of 11 months; Maurice one case of 11 months and 8 days; while Ahlfield, in a tabulated list of 645 pregnancies, states that six per cent. of them extended over 41 weeks; he does not specify the most prolonged case. Although these cases have been recorded by careful observers as *bona fide* instances of prolonged gestations, the greatest care may not have been practiced in collecting sufficiently reliable data to establish their authenticity in every case. Lusk has so little confidence in extended pregnancies that he declares Faye's cases as belonging to the realm of fable, and Ahlfield's tabulated list as of questionable authority; he furthermore states that gestations prolonged beyond the two hundred and eighty-fifth day are of very rare occurrence. Playfair, in his valuable "System of Midwifery," places the extreme limit at 295 days. Charpentier, in the "Cyclopædia of Obstetrics and Gynæcology," asks whether pregnancies are ever extended beyond the conventional period, and in reply says, agreeing with all other authors on the subject, prolonged gestations do not exist as a physiological condition, but may occur in the following abnormal conditions: (1) In extra-uterine pregnancy; (2) in the case of a dead fœtus retained in the uterus, as with abortive ova; (3) finally, in cases where the dead fœtus is retained by obstacles to parturition seated at the cervix. Even in these cases, he says, prolonged pregnancy is very exceptional. With all due respect to the eminent authorities cited above, I feel justified in reporting the following case, which occurred in my practice, as a reliable instance of a very prolonged gestation—one extending over a period of 334 days.

Mrs. M. T., American, white, aged twenty-nine, husband living, was taken sick with her catamenia May 13th, extending over the usual period of four days. Early in June, the following month, she complained of intense nausea, or morning sickness, and distaste for food, with inability to retain it. She also stated that the odor of food being prepared for the table was more pronounced at this time, a symptom almost always present in early insemination. These early developments, together with absence of future menstrual epochs, were sufficient for an opinion of impregnation. I saw Mrs. T. several times during the summer and was informed by her that she felt motion September 17th, and regularly after the 24th inst. Preparation was made for her expected labor the latter week in February, the proper date fixed by the ordinary methods of calculation. I was called to see her from time to time during the following March, and found her very large, but suffering no special pain. On account of the protraction of pregnancy and her immense size, I fancied that hydramnion might be the cause of her retarded labor, and made preparation to aspirate the amnion, but abandoned the attempt on account of the difficulty of inserting the aspirator. Matters continued, however, unchanged until April 14th, when she was delivered of a healthy male infant weighing nine pounds, which apparently was not prematurely developed.

There is no doubt in my mind but that conception occurred shortly after her last menstrual period in May, and in fixing the date for delivery by Naegele's method we have the following: Add 7 days to May 13th, and counting backward three months we have February 20th, which should be about the time for delivery. Adding to this period the 54 days until April 14th, we have the gestation lasting 334 days. Or, calculating by Matthews Duncan's method, in taking the last day of menstruation, April 17th, and adding 275 days, unless February is included, in which case 273 days, and to this add 5 days, we have again February 20th as the date set for labor, which again gives us the 334 days as the duration of pregnancy. By Montgomery's method of adding 280 days to any day in the first week after the last menstrual period, we have, in taking May 17th as that day, 332 days as the period of gestation in this truly remarkable case.

Fort Porter, N. Y., *April 4, 1889.*

## Correspondence.

### LETTER FROM LONDON.

*The Anti-vaccination Agitation.—Dr. Barry's Report on the Recent Epidemic of Small-pox at Sheffield.—Post-graduate Instruction in London.—The Societies.*

London, *April 9, 1889.*

The anti-vaccination agitators are no doubt in high feather just now, as they have gained what they will consider to be a triumph. They have asked for a royal commission to inquire into the working of the vaccination acts, and their request has been granted. But it has not been granted by the Government from any doubt as to the efficacy of vaccination, but simply as a means of satisfying the public mind, which has been much perturbed by the reiterated and perfectly unfounded assertions of the anti-vaccination societies on the subject. As a writer in one of the daily papers has very well put it, there has been so much nonsense poured into ignorant ears and paraded in print before ignorant eyes that there has been work made for a commission to counteract the harm that has been done. The report of the commission will only reiterate established truths. The case in favor of vaccination was settled long ago, but, if a restatement of it serves in some measure to dispel the mist created by prejudice and ignorance and by a reckless perversion of facts, the purpose of the commission will be attained and its issue will be justified by the result. The fear is, however, that the majority of the agitators are men who do not in the least wish to ascertain the truth and who will refuse to be convinced by facts, no matter how conclusive the demonstration of them may be to other eyes.

Dr. Barry's report to the Local Government Board on the recent outbreak of small-pox at Sheffield appeared very opportunely for the debate in question, and it is perhaps hardly necessary to say that the anti-vaccinators did not make any use of the facts it contained. Dr. Barry's report dealt with 6,088 cases, of which 590 were fatal; he investigated the circumstances of every fatal case, of every case alleged to have occurred in children under ten who had been vaccinated, and of every case alleged to have taken place after previous small-pox or re-vaccination. He found that the attack-rate of the vaccinated children under ten was 5 in a thousand, and that that of the unvaccinated children of the same age was 101; the death-rate of the vaccinated children under ten was 0·09, and that of the unvaccinated 44. The experience in reference to those over ten was similar. For every 100,000 of those twice vaccinated, there were 8 deaths; of those once vaccinated, 100 deaths; and of the unvaccinated, 5,100 deaths. The outcome of the report was that, if the vaccinated children had been attacked at the same rate as the unvaccinated, there would have been 7,000 attacks in place of 353 and 3,000 deaths in place of 6, or, up to the conclusion of the epidemic, there would have been 4,400 deaths in place of 9.

The movement in favor of making more definite and systematic arrangements for post-graduate instruction in London, to which I have alluded in former letters, has of late taken definite shape. A meeting was held recently at which several resolutions were agreed to as to the desirability of providing more facilities for post-graduate teaching at the special hospitals in London, and certain hospitals were invited to nominate representatives to form a committee to consider how this object could best be attained. The specialties which have been chosen are diseases of the nervous system, represented by the Queen Square Hospital; diseases of children, by the Great Ormond Street Hospital; consumption and diseases of the chest, by the Brompton Hospital; diseases of the skin, by the Blackfriars Hospital; diseases of the eye, by the Moorfields Hospital; and diseases of women, by the Samaritan Hospital. The amount of clinical material that will be available at these hospitals must be something enormous, and when the scheme is once in working order I shall be much surprised if practitioners do not find it better worth while to stay in London than to go on to Vienna or the other great continental schools. I ought to add that whatever success this movement may attain will be largely due to the energy of Dr. J. F. Little, who has certainly been the prime mover so far; he organized the course at Charing Cross which has now been going on for a year and a half with conspicuous success, and he had previously set in motion a very successful post-graduate course at Leeds, after the staff of the hospital had tried it on their own account and failed.

The work at our societies has not been of great interest of late, but the Clinical Society has just appointed a committee to go through the back volumes of these "Transactions" and endeavor to obtain further reports relating to any of the cases in which it may seem desirable. This was done by the Pathological Society a few years ago, at the suggestion of Mr. Hutchinson, with very interesting results, and I should think that even better results might be expected from this inquiry, for the patients are nearly always living at the time the cases are communicated to the society, and therefore a further report ought to be almost always possible. The Medico-chirurgical Society has decided upon a step which has often been discussed, and has long been foreseen to be necessary—viz.: the removal to more commodious premises; a large house in Hanover Square, a most central situation, has been bought by the society, and I suppose the migration will take place as soon as the necessary alterations have been made.

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## WEIL'S DISEASE.

This subject is considered at length in the "Province médicale" for March 2d by Dr. George Lemoine, who puts the question seriously, and in evident good part, whether there is really a morbid entity manifested by the assemblage of symptoms described by Weil and belonging to the typhoid type. A careful study of the literature of the subject and close observation of cases render the author's work at once valuable and suggestive. In 1886 Weil published records of four cases that bore certain marked resemblances to typhoid fever, yet at the same time presenting features justifying, he thought, a distinct classification. With the intention of leaving the question open, the cases were simply presented as examples of an acute infectious disease accompanied by tumefaction of the liver and spleen, together with jaundice and nephritis. The onset is sudden, usually without prodromes, beginning with a fever of some severity that reaches its maximum within from three to five days, up to which point there are vague distress, prostration, headache, insomnia, and muscular pains of a severe character. The tumefaction of the liver and spleen is rapid, the right hypochondrium is painful on pressure, jaundice appears, and albumin in the urine suggests an acute nephritis. When these phenomena are at their height a sudden amelioration takes place and there is gradual and complete cessation of all the symptoms. The temperature falls, the jaundice disappears, and the pains diminish. In duration this remission is variable. It is followed by a rise in temperature and a reappearance of the former symptoms in a less severe degree. These subside gradually as before. Convalescence is slow, and, as in other infectious diseases, restoration to health is a tedious process.

Since Weil's publication observations similar to his own have been numerous in Germany. Goldschmidt publishes the following account of a case: A man of thirty-four, after a fainting fit, was suddenly seized with fever, malaise, then jaundice, painful tumefaction of the liver, and nephritis. In a few days the conditions improved; then a relapse occurred, presenting all the features of the first clinical picture, minus the albuminuria. Aufrecht has reported two cases that are not conclusive. To accept them as examples of Weil's disease requires some imagination and no little generosity. Febrile icterus is a name that Wagner gives to conditions somewhat similar to Weil's disease. But diarrhœa is here present, without tumefaction of the splanchnic organs, and convalescence is rapid. Roth records an instance presenting some points similar to the foregoing, in which there were vomiting and excessive albuminuria. Haas, Hueber, and Pfuhl note isolated cases. In forty-nine cases of typhoid fever Pfuhl observed jaundice nine times. The temperature rose abruptly, the fever lasting a week, subsiding by oscillation, and without relapse. Fiedler, in 1888, cited thirteen sporadic cases observed in Dresden during a period of thirteen years. They were minutely described, and the author set forth the following conclusions: Weil's disease results from poisoning or infection, and is not to be confounded with typhoid fever or any other known disease; it is a malady *sui generis;* the usual symptoms are fever, headache, gastric disturbances, jaundice, and muscular pains, particularly in the calves of the legs. The fever has a typical curve, and lasts from eight to ten days. Sometimes there is a reversion of temperature. The pulse is rapid at the onset; afterward it is slow. Generally, but not always, there is tumefaction of the liver and spleen. The liver is painful. Sometimes nephritis, herpes, and erythema are present. The disease attacks preferably men in the prime of life. Out of twelve patients, nine were butchers. All were attacked during the heat of summer. Brodowski and Dunin, of Warsaw, recently reported a case that is of particular interest on account of the autopsy and the histological examination that were made with great care. In this instance there were prodromes—chills and tremor, headache, and abdominal pain lasting for nearly ten days. When the patient entered the hospital there was pronounced jaundice, with tumefaction of the liver and spleen, which were sensitive on pressure. The lymphatic glands of the groin and axilla were enlarged to about the size of filberts and somewhat painful. The sternum and the long bones were also sensitive. There was bilious, albuminous urine, that abounded in hyaline casts. In the blood there was an increase of white corpuscles, but the number of red corpuscles was normal; there were no bacteria or spirilli. A temperature of 102·5° F. persisted for several days. Then the condition became greatly aggravated, and the patient died in collapse. After some hesitation between a diagnosis of typhoid fever, of acute atrophy of the liver, of continued malarial fever, and of leucæmia, the authors confess themselves confronted by an unclassified disease resembling that described by Weil. The autopsy, of which the following is a *résumé*, is more complete than any yet reported: The lungs were found hyperæmic and œdematous, and hepatized at the base; the bronchial glands were enlarged, soft, and red; the spleen was increased one fifth in size, dark red, much softened, and of almost liquid consistence; the kidneys were of twice the normal size and grayish red, with white spots on the surface, and the cortical substance was much thickened; the mucous membrane of the stomach and intestines presented nothing of importance beyond some swelling of Peyer's patches; the lymphatic glands of the mesentery, the axilla, the inguinal region, etc., were large, soft, and very red. The histological examination revealed these interesting but by no means pathognomonic features: The lungs were infiltrated with blood, numerous alveoli being filled and distended with blood corpuscles; the endothelium had been shed, and numerous endothelial cells mixed with blood filled the alveolar spaces; the interstitial tissue was completely infiltrated with embryonic elements, and to an excessive degree; there was a similar infiltration into the liver, along the ramifications of the portal vein, while the central lobular vein presented scarcely any trace of such a condition; this infiltration was abundant at the periphery of the lobule, penetrating the organ by separating the hepatic cells and disappearing in proportion as the center was approached; there were certain points of apparent atrophy in the liver, which everywhere presented a yellow, bile-stained appearance. The kidneys gave evidence of analogous lesions, the white spots upon the surface corresponding to the zones of embryonic-cell infiltration; the intercanalicular stellar spaces were distended and the tubules widely separated, the intervening spaces being filled with a considerable number of young cells, and Bowman's capsules presented frequent points of infiltration; the tubules were the seat of epithelial lesions characterized by granular degeneration of the investing epithelial cells, the nuclei of which had lost their color and fallen into the lumen of the tubule. The bacteriological examination gave but indifferent results. Among the embryonic cells there were found certain large ones of irregular shape in which the protoplasm was filled with micrococci. The number of these large cells was small, and their presence was thought to have no special significance. Gelatin and agar-agar in which portions of the spleen were placed remained sterile, while the lymphatic glands afforded cultivations of the *Staphylococcus albus.*

A careful review of the observations made by Weil and others shows that the disease under consideration manifests itself in two distinct forms, the severe and the mild. The severe form is invariably accompanied by nephritis, and nearly always there is a relapse. In the mild form, on the contrary, albumin is absent from the urine or only transiently present in it, and there is no relapse. This broad classification into serious and light attacks is more arbitrary than rational, for there are intermediate varieties of the disorder that merit special attention, and each indicates, in a certain sense, a variety by itself. The symptoms of the severe form as described by different writers may be summed up thus: Sudden onset, as a rule, without prodromes; frequent chills; extreme prostration; headache; and a fever that ranges between 103° and 105° F. on the second day, and remains at that height for three or four days, the morning remission being slight. On the fourth day the temperature begins to decrease, and falls within the next three to six days to normal. During this period the difference between the morning and evening temperature is about 1·8° F. There is a longer or shorter interval of improvement that continues until the period of relapse. The temperature curve is then exactly repeated, except in regard to intensity. This time the maximum rarely exceeds 102·5° F. The relapse lasts about as long as the initial fever. With the disappearance of the fever convalescence begins. The pulse-rate corresponds with the temperature, being rapid when the latter is high. Weil noted two instances of slowing of the pulse, due to the onset of jaundice. Others record the same observation in grave cases, in which it is feeble, compressible, and decidedly dicrotic at times. The fever period is characterized by headache, vertigo, insomnia, dreams, prostration, and even delirium. These symptoms disappear with the fever toward the sixth or eighth day, to return in a milder form at the time of relapse. Sometimes at the commencement of the illness there is diarrhœa; or constipation may exist, with meteorism and discomfort, or even pain in the abdomen. The skin presents no constant symptom. In a few cases only, rose-colored spots have been noticed upon the abdomen and in the dorso-lumbar region. Jaundice is generally an early feature, and varies in intensity, light stools and bilious urine being common accompaniments. The tongue is foul, and gastric disturbances are frequent, especially vomiting. The jaundice sometimes disappears with the first attack of fever, to return with the second; but it often persists till a late period of convalescence, in which case there are severe muscular pains. The spleen is always enlarged. Nephritis is the rule, the urine being diminished, cloudy and reddish, containing much albumin, hyaline casts, epithelium, blood, etc. The renal inflammation undergoes immediate improvement upon the fall in temperature. Convalescence is slow, and the nutrition remains impaired for a long time. When death occurs, it appears to be due to renal insufficiency. The mild form of Weil's disease is the most common. There is transient jaundice with albuminuria, and there is no relapse. The general symptoms are equally pronounced and the fever is as high as in the grave form, but the cessation of all morbid processes is rapid, the cause that gave rise to them being less profound. Convalescence is as slow as in the severe form of the disease. The organism finds the greatest difficulty in rallying from the blow which it has received.

Whether new or old, the disorder known as Weil's disease is a sufficiently serious matter. When it is a question of a marked constitutional derangement, of a toxic or infectious nature, like the condition just described, some boldness is required, to say the least, in order to classify it as a new morbid entity without a firmer basis than clinical symptoms and lesions that are revealed post mortem. The pathognomonic factor, whatever it may be, is justly considered of prime importance in the discovery of isolated morbific processes. It is the criterion of their real existence. Weil's disease, so called, is separated from other well-known disorders only by shades of almost inappreciable difference. It seems scarcely entitled to be considered a distinct affection, though it is difficult to judge of facts at a distance, especially when eye-witnesses hesitate to pronounce upon their significance. It evidently belongs to the obscure class of diseases due to organic poisons. If by chance there are to be discerned in the reports already published certain sound reasons for supposing the complexus of symptoms therein described to be the expression of a hitherto unrecognized malady, a definite ultimate cause must be isolated and proved to be present before any such allegation can be maintained. In the mean time, it is easy to find striking analogies between the condition under discussion and definite diseases already classified. Some of the published observations suggest aborted typhoid fever; others, tuberculosis; certain of them resemble catarrhal jaundice; and several point to icterus gravis or icterus pseudo-gravus, of which Bouchard and Brouardel have published one report. Longuet gives his reasons, in the "Semaine médicale," 1888, p. 348, for considering this condition a bilious typhoid fever. Griesinger, Murchison, and nearly all authors who occupy themselves with typhoid fever have recognized an abortive bilious form that includes jaundice, albuminuria, and a relapse. Chauffard has published accounts of catarrhal jaundice with albuminuria at the outset, and a relapse at a later period. Others besides himself have witnessed and written of similar conditions without the slightest idea of having dealt with a new disease. It may be affirmed without a shadow of hesitation that certain forms of icterus gravis are identical with Weil's disease. Thus it would appear that this is not a question of one morbid entity, but of several—not a consideration of Weil's disease, but of Weil's diseases, a series of disorders that were christened long ago. To put it plainer, according to hard, cold facts, Weil's disease is sometimes aborted typhoid fever and sometimes a manifestation of tuberculosis, of catarrhal jaundice, of icterus gravis, possibly of continued malarial fever, or even of leucæmia. Medical skepticism is better than medical credulity, and it is wise to remember that the case at issue is decidedly not proved.

## *MINOR PARAGRAPHS.*

### THE HEMLOCK OF CALIFORNIA.

Our indigenous medicinal plants deserve far more study than they have yet received. A notable impetus to their further investigation ought to have resulted from the excellent work done lately by the Lloyds, of Cincinnati, and their collaborators. It is true that now and then a contribution on the subject of considerable value is made. For example, at the recent annual meeting of the Medical Society of the State of California, Dr. W. P. Gibbons, of Alameda, read a report of the society's Committee on Indigenous Botany, devoted to the indigenous and naturalized *Umbelliferæ* of the Pacific coast. It seems that the hemlock is extensively diffused in that region, and Dr. Gibbons showed fresh specimens of two varieties, the *Cicuta virosa* and the *Cicuta californica*. These varieties, he said, were practically identical for therapeutical purposes, although analyses showed a considerable variation in their constituents. He thought that the comparative disuse into which hemlock had fallen was due to the lack of proper analyses and the consequent extreme uncertainty of the preparations.

### THE NEED OF PROFESSIONAL CO-OPERATION.

So difficult is it to rouse the slumbering *esprit de corps* of the American medical profession that something like the dramatic incident of the president of a State society in session receiving a telegraphic dispatch from a member announcing his lodgment in jail for the offense of declining to give his time and skill to a court without compensation was needed to call forth such prompt and effective action as the society in question, the Medical Society of the State of California, took, as will be seen in another column. Wrongs like Dr. Mays's imprisonment, although not always so strikingly outrageous, are not uncommonly inflicted upon medical men in the United States. In almost any other civilized country an endeavor to obtain redress would at once be entered upon, and the injured person would be sustained by his colleagues' moral and pecuniary support; but here it is among the rarities for any concerted action to be taken. It is to be hoped that the example set by our California brethren will awake the profession to a due sense of its rights in the community and of the duties of its members to each other.

### THE NEW COMMISSIONER OF HEALTH.

Mr. Charles G. Wilson has been appointed to the presidency of the Health Department by the Mayor. Mr. Wilson is a lawyer by profession, and his experience has not lain altogether in sanitary channels, but he has been in a presidency before, namely, that of the Consolidated Exchange. He is represented as saying: "The position has come to me entirely unsolicited. I realize the importance of the office, and will immediately set to work to learn something about its duties." Is it not about time that the law was changed which prevents the appointment of a medical man to the headship of this vastly important department?

### THE BRITISH AND THE AMERICAN PINT.

According to the "British Medical Journal," the attention of the Midland Counties Chemical Association was lately called to the indeterminate character of the pint measure in use among pharmacists, or, as it was put, the doubt as to the meaning of the abbreviation *Oss.* Our contemporary remarks, however, that all ambiguity ought to have been cleared up by the General Medical Council's distinct statement that twenty fluidounces constitute a pint. Inasmuch as our American apothecaries' pint consists of only sixteen fluidounces, it will be well for prescribers and dispensers to bear the disparity in mind.

### DACTYLITIS SYPHILITICA.

In a recent number of the "Lancet," Mr. Frederick W. Lowndes, of the Liverpool Lock Hospital, gives a short account of a case of this affection. He adduces his own experience and the statements of well-known syphilographers to show its rarity. He says that, when he first saw his patient, he was "at once reminded of the engravings of the various forms of dactylitis syphilitica in Bumstead and Taylor's 'Pathology and Treatment of Venereal Diseases.'" He further says: "Until Dr. Taylor, of New York, gave it the prominence of a separate chapter in his work, previously alluded to, only isolated cases had been recorded by various authors." It is now twenty years or more since Dr. Taylor published his masterly essay on the subject, and no greater tribute to the accuracy of his pictorial representations of the lesions and the vividness of his descriptions of the affection could be had than is to be found in these simple statements coming from an observer who, during the twelve years from 1875 to 1887, "never saw a case among the patients in the Lock Hospital," but was able to recognize one at the first glance by his remembrance of Dr. Taylor's article.

### FARADIZATION IN CATARRHAL JAUNDICE.

The "Internationale klinische Rundschau" gives an abstract of an article by Dr. E. Kraus, of Vienna, published in the "Archiv für Kinderheilkunde," in which there is a summary of his experience in the faradaic treatment of catarrhal jaundice in the cases of seventeen children. In all of them, seven or eight applications sufficed, and improvement always began after three or four. The applications were made once a day, each one being of five minutes' duration. In some of the cases, Gerhardt's method was employed, a strong current being used, with one electrode placed by the side of the vertebral column at the level of the gall-bladder; in others, both electrodes were placed over the gall-bladder, and a current too weak to provoke contractions of the abdominal muscles was used. The effect is ascribed to evacuation of the gall-bladder by contractions of its muscular fibers, but the author thinks it not improbable that strong faradaic currents may prove serviceable by means of a catalytic action.

### ANTIPYRINE IN THE TREATMENT OF HÆMORRHOIDAL ULCERS.

In the "Therapeutische Monatshefte," quoted in the "Centralblatt für Chirurgie," Dr. J. Schreiber gives an account of the case of a man, seventy-two years old, who had suffered for ten years with the most obstinate hæmorrhoidal ulcers. By dusting the ulcers for twenty days with finely powdered antipyrine, Schreiber produced a perfect cure. Each application caused moderate pain lasting for about half a minute, but the effect of the drug on the pain and continual itching of the ulcers was very favorable.

### FLOOR-DEAFENING.

This is a material laid between a floor and the ceiling beneath, to deaden the passage of sounds. The material used in many parts of Europe for this purpose is supposed to be a mixture of coarse mortar and smith's ashes, but, according to Miss Etta Johnstone, of Dundee, and Professor Thomas Carnelley, of Aberdeen, who have recorded their observations in the "Proceedings of the Royal Society," it is generally of a more questionable nature, particularly in low-class houses, and constitutes a favorable nidus for the multiplication of micro-organisms. It is apt to be loaded with nitrogenous organic matter, and the authors infer that it may often impair the health. It is more noxious in old houses than in new ones, and more harmful in houses with few rooms than in those with many.

## ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 7, 1889:

| DISEASES. | Week ending Apr. 29. | | Week ending May 7. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 5 | 2 | 6 | 1 |
| Scarlet fever | 281 | 43 | 319 | 36 |
| Cerebro-spinal meningitis | 5 | 5 | 4 | 4 |
| Measles | 174 | 12 | 146 | 9 |
| Diphtheria | 158 | 49 | 179 | 62 |

**The Medical Society of the State of California** held its nineteenth annual meeting in San Francisco on the 17th, 18th, and 19th of April, the president, Dr. James Simpson, of San Francisco, in the chair. For an account of the proceedings we are indebted to the "Occidental Medical Times." Judging from the report furnished by our excellent contemporary, we conclude that the scientific proceedings were particularly interesting and instructive. The report of the Board of Examiners stated that the board had added acts involving moral turpitude and intemperance to the list of acts constituting "unprofessional conduct." On the second day the president informed the meeting that he had received a dispatch from Dr. W. H. Mays, of San Francisco, stating that he was in jail at San Bernardino for having refused to give skilled testimony in court without remuneration. The president said that he himself had had some experience in such matters; as the law now stood, a physician could be taken to any part of the State on a writ issued by a Superior Court judge and compelled to testify without remuneration. The society, he thought, ought to take some action in the matter. Thereupon Dr. G. F. G. Morgan, of Olema, submitted the following preamble and resolutions: *Whereas*, This society has heard with pain and regret of the imprisonment, at San Bernardino, Cal., of one of its respected members, Dr. W. H. Mays, of San Francisco. We deeply sympathize with him in the wrongs he now suffers. We recognize the justice of the claims he asserts. We urge him to stand firm, and to bring the matter once for all before the highest courts of the State. We hereby pledge him, and all similarly placed, our active sympathy and financial support. We can not find words adequate to express our condemnation of this action of the San Bernardino judge, so contrary to all true ideas of justice and equity, by which a disinterested professional citizen has been summoned from one end to the other of the State, and then ordered to give up his professional time and acquirements without compensation therefor, or be thrown, as he now is, in jail. We properly call this act an outrage on justice. *Resolved*, That the president of this society immediately telegraph the following to Dr. Mays: "Yours read before the society, which greets you and says, 'Stand firm,' and pledges you its financial and moral support in legal settlement of this wrong." *Resolved*, That the society hereby authorizes the president thereof to appoint a committee to take such measures as may seem best calculated to support Dr. Mays in his just position—namely, employment of counsel, etc., to carry the matter up to the Supreme Court of this State. *Resolved*, That this society will bear the necessary expenses of all legal action involved in the settlement of this question now pending between Dr. Mays and the court of San Bernardino. The resolutions were warmly seconded by several members and unanimously adopted.

At a subsequent stage of the proceedings, Dr. Morgan read a paper on "The Relation of the State to the Medical Profession," in which he said that these were days of organization in all professions and callings. Pharmacy as a profession was alive to the needs of a universal standard of proficiency, the acquirement of which would allow the holder to practice in any State. He thought that the profession should endeavor to procure a proper organization and enforce a recognition of its rights. The present condition of the State toward the medical profession was one of neglect; there were laws regulating the practice of medicine, but they were not enforced. The law demanded that medical men should be properly qualified to practice. The health boards required reports of births and deaths, and notification of contagious diseases from them. The law courts compelled the attendance of physicians as experts, and their services were demanded without remuneration. No other profession or calling occupied the same position. It was an axiom of law that there was "no obligation without consideration." The expense of special education and of the support of the professional student were not borne by the State, but by private individuals; the physician therefore owed the State nothing, and it had no right to demand gratuitous service of him. On the other hand, the State was a debtor to the profession for these services, and was bound to respect its rights and privileges, especially against unprincipled, incompetent charlatans. He believed that there should be a duly salaried State or county official appointed to enforce the laws regulating the practice of medicine; and that due compensation should be rendered to medical witnesses when testifying in courts of law as experts.

Officers for the ensuing year were chosen as follows: Dr. Walter Lindley, president; Dr. W. F. McNutt, Dr. Charlotte Blake Brown, Dr. Wallace A. Briggs, and Dr. Elizabeth R. C. Sargent, vice-presidents; Dr. W. Watt Kerr, secretary; Dr. H. M. Sherman and Dr. H. J. Brainerd, assistant secretaries; and Dr. G. C. Simmons, treasurer. The retiring president spoke of his successor's well-known ability as a writer and of his prominence as a practitioner in the southern part of the State. It was voted to hold the next meeting in Los Angeles.

**Dr. D. Hayes Agnew** is reported to have been taken with a temporary loss of consciousness on the stage, during the commencement exercises of the University of Pennsylvania, on May 1st, when he was about to deliver an address. Although he had resigned from the medical faculty, the graduating class had felt impelled to mark the occasion in a special manner by the presentation of a portrait of Dr. Agnew to the faculty. It was in immediate connection with this presentation that his temporary faintness occurred. After a short time he recovered and was able to deliver his address.

**The Right to Advertise.**—The "American Practitioner" for April cites a recent decision of the Illinois Court of Appeals which prohibits the State Board of Health from withholding the license to practice of the practitioner who advertises. A specialist whose license the board had revoked in 1885 contested the case, and in March last got a decision which virtually declares that in the eye of the law advertising is no bar to practice.

**Changes on Randall's Island.**—The Infants' Hospital on Randall's Island has been enlarged by the erection of two brick pavilions, each a hundred feet in length. On the north side of the hospital there have been placed a number of tents for the reception of infants with contagious disease.

**The "Times and Register"** is the title of the consolidated "Philadelphia Medical Times" and "Medical Register." It is edited by Dr. William F. Waugh, and published weekly.

**The Toner Lectures.**—The next lecture is to be given at the National Museum, Washington, on Wednesday evening, the 29th inst., by Dr. Harrison Allen, of Philadelphia, on "The Clinical Study of the Skull, especially undertaken in connection with the Morbid Conditions of the Jaws and Nasal Chambers."

**The late Dr. Samuel W. Gross.**—At a meeting of the Philadelphia County Medical Society held April 24, 1889, the following minute was unanimously adopted: By the death of Dr. Samuel W. Gross this society has lost an industrious colaborer and a wise counselor, and the profession one of its most brilliant ornaments. As a student, practitioner, and teacher he possessed, with remarkable surgical acumen, unusual power of analysis and deduction, and his lectures, like his mental workings, were conspicuously clear, concise, logical, and vigorous. He was an earnest student of the progress of surgery in all countries, with more respect for the experience of the present than the traditions of the past; never satisfied to stand still, and ever advancing with the progress of science, he kept his teaching always apace with the rapid strides of surgical knowledge. As an operator he was bold, conscientious, and successful. Possessed of broad views, he was quick to recognize merit and to welcome truth by whomsoever presented. He took an active interest in all that pertained to the welfare of the profession and was ever ready to work for its promotion. He possessed positive convictions and was frank in their expression. As a companion he was genial and entertaining; as a friend, generous and true.

**An International Medico-legal Congress** is to be held in New York on the 4th, 5th, 6th, and 7th of June, under the auspices of the New York Medico-legal Society.

**The Obstetrical Society of Boston.**—At the meeting to be held this (Saturday) evening, by invitation of Dr. Cotting, Dr. Townsend will read a paper on "An Epidemic of Measles, with Remarks on Rötheln."

**Changes of Address.**—Dr. Louise Fiske Bryson, to No. 41 West Thirty-fourth Street; Dr. J. Swinburne Hopkins, to No. 150 West Eleventh Street; Dr. James B. Hunter, to No. 55 West Thirty-sixth Street.

**Recent Deaths.**—Dr. Thomas Layton, of New Orleans, died suddenly on Monday, the 6th inst.

Dr. A. S. Dandridge, of Cincinnati, died on Saturday, April 27th, of chronic Bright's disease.

Dr. William H. Pinkney, a son of the late Dr. Howard Pinkney, died suddenly at his home in New York on Thursday, the 2d inst.

**The Tennessee State Medical Society** held its annual meeting at Nashville on April 30th and May 1st and 2d, the president, Dr. T. J. Happle, of Trenton, in the chair. A report was made that, after forty years of solicitation, the Legislature had at last passed a law regulating the practice of medicine. Though it was far from perfect, yet it was a great gain and should receive hearty support. The society recommended the following-named gentlemen for appointment as a board of examiners: Dr. C. Deadrick, of Nashville; Dr. J. B. Murfree, of Murfreesboro; and Dr. D. D. Saunders, of Memphis. A resolution requesting the Legislature to pass the bill now pending requiring the registration of births and marriages was carried. Officers for the ensuing year were elected as follows: President, Dr. Duncan Eve, of Nashville; vice-presidents, Dr. Henry Berlin, of Chattanooga; Dr. J. B. Neil, of Marshall; and Dr. J. P. C. Walker, of Dyersburg; secretary, Dr. E. D. Nelson, of Chattanooga; treasurer, Dr. Richard Cheatham, of Nashville. The next meeting will be held at Memphis, beginning on the second Tuesday in April, 1890.

**Marine-Hospital Service.**—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending April 13, 1889:*

GODFREY, JOHN, Surgeon. To proceed to Poughkeepsie, N. Y., on special duty. April 10, 1889.

MEAD, F. W., Passed Assistant Surgeon. To report in person to the Supervising Surgeon-General, April 3, 1889. Detailed as Acting Chief Clerk, Marine-Hospital Bureau, and Attending Surgeon, port of Georgetown, D. C. April 10, 1889.

WHEELER, W. A., Passed Assistant Surgeon. Relieved from duty at Buffalo, N. Y.; to assume charge of the Service at Norfolk, Va. April 3, 1889.

DEVAN, S. C., Passed Assistant Surgeon. Relieved from duty as Acting Chief Clerk, Marine-Hospital Bureau, and Attending Surgeon; to assume charge of the Service at Buffalo, N. Y. April 3 and 12, 1889.

PETTUS, W. J., Assistant Surgeon. Granted leave of absence for four days. April 6, 1889.

STONER, J. B., Assistant Surgeon. To rejoin station (New York) as soon as practicable. April 11, 1889.

**Society Meetings for the Coming Week:**

MONDAY, *May 13th:* New York Academy of Medicine (Section in Surgery); New York Ophthalmological Society (private); New York Medico-historical Society (private); New York Academy of Sciences (Section in Chemistry and Technology); Lenox Medical and Surgical Society (private); Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt., Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

Tuesday, *May 14th:* New York Medical Union (private); Medical Societies of the Counties of Albany (semi-annual), Greene (annual—Cairo), and Rensselaer, N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Medical Societies of Camden (annual—Camden), Morris (annual), and Sussex (annual) Counties, N. J.; Norfolk, Mass., District Medical Society (election—Hyde Park); Franklin, Vt., County Medical Association (annual); Baltimore Gynæcological and Obstetrical Society.

Wednesday, *May 15th:* Iowa State Medical Society (Keokuk); Northwestern Medical and Surgical Society of New York (private); Harlem Medical Association of the City of New York; New Jersey Academy of Medicine (Newark).

Thursday, *May 16th:* New York Academy of Medicine; Brooklyn Surgical Society; New Bedford, Mass., Society for Medical Improvement (private).

Friday, *May 17th:* Chicago Gynæcological Society; Baltimore Clinical Society.

Saturday, *May 18th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

## OBITUARY NOTES.

**Dr. Frank W. Rockwell,** of Brooklyn, died on April 30th, aged forty-five years, after an illness of a few days. He was born in Albany, being the son of the Rev. Dr. Rockwell, formerly of Brooklyn. He was educated at Amherst, in the class of 1865. His medical degree he received three years later from the College of Physicians and Surgeons. He spent a year at the Kings County Hospital, and then took up his residence in Brooklyn permanently. He was an attending surgeon at St. John's and St. Mary's Hospitals. His predilection was for surgery, and he was rapidly acquiring a position in the front rank of consultants, in that department, when death cut short his promising career. He was of a scholarly, refined, and generous nature, and, although not robust in physique, he evinced a tireless capacity for professional work. His fatal illness began as a laryngeal abscess, upon which pleurisy and pericarditis supervened.

# Proceedings of Societies.

## NEW YORK SURGICAL SOCIETY.

*Meeting of March 13, 1889.*

Dr. Charles T. Poore in the Chair.

**The Influence of Simultaneous Ligature of the External Carotids on a Naso-pharyngeal Growth.**—Dr. Joseph D. Bryant read a paper with this title. (See page 512.)

Dr. J. A. Wyeth said that he had no doubt of the value of the operation as a means of controlling the nutrition of the parts about the upper jaw or in the naso-pharynx. To lessen the blood supply going to tumors would naturally cause a retrogression in their growth. He saw no danger in ligation of both external carotids. As a preliminary to the removal of the upper jaw, where very great hæmorrhage was to be feared on account of the nature of the diseased process, or when tumors were to be removed from the pharynx, he thought the operation would be an entirely justifiable one. However, there were one or two points in the anatomy of this region that might have a special bearing on the result to be obtained by tying the two external carotids, and they related to the source of the blood supply to the tonsil and the back part of the pharynx. Many years previously he had worked out the anatomy of the neck for a special purpose quite elaborately, and he had been struck by the variations sometimes occurring in the origins of the arteries supplying the parts in question. Thus, in 121 dissections, the ascending pharyngeal had been found to be given off from the bifurcation of the common carotid in only 12, the average distance of its point of origin from the bifurcation being three fifths of an inch, or at a point about opposite the lingual artery. In seven of the 121 examinations he had found it arising from the internal carotid, and in three the pharyngeal arteries had been derived from both external and internal carotids. It would therefore be advisable to examine into the particular arrangement of the arteries existing in each case as soon as they were exposed.

Dr. R. Abbe asked how much of the tumor had been injected with the carbolic-acid solution used by Dr. Bryant in the case referred to in his paper, and whether any benefit seemed to have resulted.

Dr. Bryant replied that the injection had been made only into the left side of the growth. There had been no reason to suppose that anything had been gained while this procedure was kept up; the tumor had grown harder, but he hardly thought this due to the effects of the acid.

**The Genesis of Tubercular Hip-joint Disease.**—Dr. V. P. Gibney presented a series of sections made through the femora and iliac bones of a boy who had died of tubercular meningitis, and who had during the last years of his life suffered more or less from lameness referable to the left hip. The specimens were interesting as showing a pathological condition that was rare in tubercular disease of the hip joint in children, that differed materially from that which was ordinarily believed to exist, and that resembled more the condition found in adults so affected. The patient was twelve years of age at the time of death, four days before, and had come under his care at the hospital a year previously with a history of hip disease extending over two years, the signs of which had been very obscure. The general health had been fair, but for a long time the boy had been lame. The speaker had adjusted a hip-splint two years and a half ago which the boy had worn for a few months, when his father had removed it, believing it uncalled for. Some months after this there had been an exacerbation of the signs of disease in the joint, but it had passed off and for a time only a slight halt in the walk had persisted. Then the signs had become a little more marked, pain had been suffered at night, the reflex spasm had been more marked, and the lameness had somewhat increased in severity. In this condition he had been admitted into the hospital in January, 1888, and during the year had remained under protective treatment with practically unchanged conditions in his affected joint, and still in good general health. Then, without any immediate exciting cause, much pain had been felt in the joint, the temperature had risen to 103° F., and the hip had become very tender when handled or voluntarily moved. An extension splint and then a weight and pulley had been employed in the hope of relieving the muscular spasm, but they had only made the pain worse. The temperature for the next two weeks had varied between 103° and 99°, without other disturbances unless the patient was moved in bed, or tried himself to move the limb. Then an exacerbation had followed during which the pupils had become dilated for the first time, and thereafter they had remained so. Vomiting and restlessness had appeared, and, nine days before death, there had been convulsions, stupor, a drawing of the head to one side, retraction of the abdomen, and paralysis of the left side continuing till death, which was evidently from tubercular meningitis. The speaker had removed the bones of both hips, to allow a comparison to be made. Sections through the structures of the right joint showed the normal appearances. In the cavity of the left joint there was a small amount of pus. There was some dry erosion or nicking of the cartilages, with areas of complete destruction. The synovial membranes were thickened and infiltrated with tuberculous inflammatory products. The ligamentum teres was large, injected, and apparently fatty. There was no lesion in any of the centers of development, but the epiphyseal line was thickened and wavy in outline, and the epiphysis was flattened and reduced in size. There was a rupture of the capsule of the joint. At the junction of the neck and shaft of the bone there was a small abscess, not communicating with the medullary cavity. The acetabulum was eroded in its posterior half and partially filled with tuberculous synovial tissue around the insertion of the ligamentum teres. There were no soft points or caseous deposits in the bony structures of the joint, the only pathological change present being a general congestion. The process had begun in the synovial membrane. In most specimens of beginning disease in the hip of this sort the pathological changes were looked for in the trochanters or in the head or neck of the femur. The specimen had not been examined microscopically.

**Successful Cholecystectomy.**—Dr. Abbe presented the entire gall bladder of a lady upon whom he had recently operated for a persistent sinus and renewed biliary colic after the removal of fifty gall-stones by cholecystotomy six months before. The mouth of the sinus was encircled by a skin incision and clamped, to prevent leakage. The abdomen was then opened by a vertical incision, and the colon, adherent over the entire gall bladder, was carefully dissected off. The gall bladder itself, shrunken to about half its original size, was dissected from the liver, and the cystic duct was ligated with silk near the common duct. The cystic duct was found to be constricted by inflammatory action at a point close to the gall bladder, and a good-sized calculus was found impacted in the duct near it. Beyond this the ligature was placed. A small drainage-tube was left in along the site of the dissection, and the abdomen was closed. The patient had made a prompt recovery. The speaker thought that in many cases of operation for gall-stone impaction this complete removal of the viscus might advantageously be done at the outset; the risks to the patient would not be increased.

# Reports on the Progress of Medicine.

## ANATOMY.

By MATTHIAS L. FOSTER, M. D.

**Result produced upon the Muscles, Bones, and Ligaments by the Habitual Exercise of Excessive Strain.**—Lane ("Brit. Med. Jour.," Dec. 1, 1888) says that the variations in the form of the skeleton which may be noticed between individuals of the same race, and, further, that the variations peculiar to the various races of mankind, are due to the mechanical relationships which have existed and do exist between the organism and its surroundings. Excessive strain, supported habitually by a certain muscle, induces enlargement of the bony surface to which it is attached, bone extending along the tendinous attachment in the direction in which traction is habitually exerted. He illustrated this by exhibiting the shoulder-girdles of a shoemaker, a sailor, and a porter. In each case certain bony prominences were very marked, corresponding to the origin and insertion of the muscles which had been habitually called into excessive use. Thus, in the case of the shoemaker the breadth of the free outer margin of the acromion was greater than in the others, and the rest of the origin and the insertion of the deltoid muscle was more prominent. This he explains to be produced by the great strain habitually maintained by the deltoid of a shoemaker, who is engaged in the heavy work of pulling waxed threads through holes in thick leather for, perhaps, twelve to fourteen hours a day. Similarly, in the case of the sailor, who had been constantly engaged in climbing, pulling ropes, or turning a heavy wheel, much strain was thrown upon the outermost tendon of the subscapularis and upon the teres major; hence the anterior of the two ridges on the axillary border of the scapula was remarkably prominent, so that its lower portion projected outward beyond the posterior ridge, and the tubercle, at its lowest limit, formed a very sharp, projecting, rough angle. The prominence of surfaces or ridges does not afford much indication of the bulk of the muscle, but varies directly as the amount of strain habitually sustained by it, as does also the amount of tendinous tissue in its substance.

When a constant and considerable strain in one direction is thrown upon a ligament, its fibrous structure shows a tendency to become converted into bone. This takes place either by the development of a separate piece of bone in its substance, which may subsequently articulate or fuse with the adjacent bone or bones, or by the growth of bone into the substance of the ligament from the bony surfaces to which it is attached. These processes of bone sometimes fuse with each other, sometimes with the separate developments in the ligament. These are well shown in the supraspinous and interspinous ligaments, and in the ligamentum nuchæ of the coal-heaver or other heavy porter. When the normal mechanical condition of the body is changed, the weight of the body may suffice to produce ossification of the ligaments which habitually sustain an abnormal amount of weight.

**Congenital Diaphragmatic Hernia.**—Paterson ("Brit. Med. Jour.," Dec. 1, 1888) employs a case of congenital diaphragmatic hernia, in which the left half of the diaphragm was wanting, as a text of an article of much interest to both the surgeon and the anatomist, particularly to the latter on account of the consideration of the development of the diaphragm.

There are three varieties of this form of hernia—viz., those due to defective formation of the diaphragm, those occurring through one of the natural openings, and those due to distension of the fibers of the diaphragm. The two latter are very rare indeed. Total absence of the diaphragm is also very rare, but partial absence is the most frequent cause. The deficiency is usually on the left side, of greater or less extent. Usually the muscle is left in a rudimentary condition, as a crescentic fold attached to the ribs and contracting the size of the opening. Sometimes one crus is wanting, or one or more costal attachments, from last to first in order of frequency. Dugnet states that the most frequent seat is one side of the vertebral column. In rare cases one half of the diaphragm is entirely wanting. A few cases are recorded in which it occurred on both sides, and one case, reported by Bednar, seems to have been placed mesially, although the possibility has been denied. In the case described the left half of the diaphragm was wanting, and the left pleural sac was continuous with the abdominal cavity. The opening was bounded on the left by the ribs, over which a continuous membrane passed on to the deep surface of the abdominal muscles; on the right by a strap-like band of muscle, stretching between the spine and the sternum, which represented the sternal and vertebral portions of the left half of the diaphragm. Round the left border of this slip the mediastinal pleura was continuous with the peritonæum on the under surface of the diaphragm. The pericardium was separated from the hernial cavity by the mediastinal pleura. Between these two membranes lay the left phrenic nerve, which took its usual course, and supplied the above-mentioned slip on the left side. It appeared as large as the right nerve. The right half of the diaphragm was developed in a normal manner. Between the xiphoid cartilage and the vertebral column there were two muscular bands—one was the above-mentioned slip—with no tendon separating them; but between them was the œsophageal opening in front, the aortic behind. The left lobe of the liver was larger than usual, and bent at right angles to the right lobe, and lay in the thoracic cavity along with most of the abdominal viscera. No other coincident congenital deformities were present.

From these facts the writer infers that the diaphragm is developed from at least three separate foci; one, mesially placed, may be called the sterno-vertebral, and two, costal or lateral. From the relative frequency of different degrees of deficiency one would judge that the mesial portion is the first formed and that the lateral portions develop as folds which grow from the mesial part as well as from the costal wall, the center of development being placed anteriorly. Growth then appears to be from the front to the back of the body cavity and from the periphery toward the center—along the mesial part on the one hand, along the thoracic wall on the other. Stoppage of growth at any time will give rise to a congenital hernia, which will usually be opposite the point which is ordinarily the last to be closed—*i. e.*, either in the center of the muscle or near one of its posterior costal attachments. The greater frequency of a deficiency on the left side than on the right the writer does not attempt to explain. This theory combines the two diametrically opposite theories hitherto advanced to account for the development of the diaphragm, the centripetal and the centrifugal. The first explains the formation of the diaphragm as two crescentic folds which grow inward from the costal margin and meet in the center, the second maintains that the formation commences in the middle line, in the tissues surrounding the structures lying in the splanchnopleure, and that its further growth is by means of two folds which grow from this mesial part toward the periphery.

Finally, Paterson suggests that the dorsal part of the muscle may possibly belong morphologically to the hyposkeletal system of muscles, and that the anterior and lateral parts of the muscle, considered developmentally, may be parts of muscular strata which form also the infrahyoid muscles. This suggestion he bases upon a consideration of its innervation. The phrenic nerve is developed early, at the same time as the nerves of the upper limb, and acquires connection with the primitive diaphragm long before the development of muscular fibers. At this time the diaphragm is adherent to the somatic wall just opposite the brachial plexus and developing limbs, and the backward course of the nerve is caused by the increased size of the heart and lungs and the consequent pushing backward of the diaphragm.

**Development of the Heart.**—Lockwood exhibited before the Section in Anatomy at the annual meeting of the British Medical Association ("Brit. Med. Jour.," Dec. 1, 1888) a series of histological specimens illustrating the early development of the pericardium, diaphragm, great veins, and respiratory organs. The first sections showed that the mammalian heart was developed in splanchnopleure and in two separate parts, situated on either side of the situation of the future pharynx. The gradual approximation of the halves of the heart was illustrated until it became a single median organ attached to the ventral wall of the pharynx by the mesocardium posterius. From its commencement the splanchnic heart protruded into the foremost part of the cardio-pleuro-peritoneal sac. Numerous specimens demonstrated that the cardiac division of the cœlom was demarked from the pleuro-peritoneal by the passage of the vitelline veins across its ventral boundary, that these vessels were fixed by the mesocardium laterale, and that their cardiac ends were converted into the sinus reuniens. A series of specimens to trace the appearance of the somatic veins showed that the umbilical veins developed first, and passed through the mesocardium laterale into the sinus reuniens; the anterior cardinals appeared next and opened into the umbilical, then the posterior cardinals which opened into the anterior cardinals. The portion of the anterior cardinal below the junction of the anterior and posterior cardinals was the Cuvierian duct, which was shown to run through the body-wall, past the side of the passage leading from the cardiac into the pleuro-peritoneal part of the cœloma (iter venosum). This passage was occluded by the gradual approximation of the Cuvierian ducts to the sides of the pharynx.

**Membranous Occlusion of the Larynx.**—Seifert and Hoffa ("Berliner klin. Wochenschrift," March 5, 1888) report a case of occlusion of the larynx by a membrane so tough as to break the point of a knife with which an attempt was made to divide it. Attempt to divide it with the electro-cautery failed. High tracheotomy was then performed and the membrane, together with the thyreoid cartilage, was divided with a probe-pointed knife. It was then found that in the posterior portion the membrane united the vocal bands, but anteriorly it formed a curtain which fell obliquely forward and was attached to the anterior wall of the larynx a finger's breadth below the vocal bands.

**Deficient Œsophagus.**—Steele ("Lancet," October 20, 1888) reports a case in which there was a deficiency of an inch and a half at about the middle of the œsophagus. Each end terminated in a blind extremity and no cord or other connection existed between them. The diagnosis of impassable obstruction was made twenty-four hours after birth and gastrotomy was performed the next day. It was found to be impossible to connect the two portions of the œsophagus, and so the patient died of inanition a day later. The condition above stated was then found on autopsy.

**Closure of the Cardiac Orifice of the Stomach.**—Von Gubaroff ("Archiv f. Anat. u. Physiol."; "Ctrlbl. f. Chir.," 1888, No. 22) has found the valve-like closure at the cardiac orifice under a moderate degree of pressure to be due to the oblique insertion of the œsophagus into the stomach. In children there is much less obliquity than in adults, and there is a correspondingly less degree of valve-like closure of the orifice. In adults also the obliquity of union differs. This accounts for the difference which exists regarding difficulty in vomiting between adults and children, and between adults as well.

**The Epiglottis.**—Howard gives as a summary of the results of prolonged and repeated investigations the following points regarding elevation of the epiglottis ("Lancet," October 27, 1888):

Contrary to general belief, traction of the tongue does not and can not raise the epiglottis, because (*a*) the tractile force supposed to be exercised upon the epiglottis is arrested chiefly by the frenum linguæ, and through the muscular fibers within is expended upon the inferior maxilla, into the genial tubercles of which they are inserted; (*b*) the surviving force is expended almost entirely upon and intercepted by the anterior pillars of the fauces; (*c*) for any tractile force which might survive a continuous and sufficient medium for its transmission to the epiglottis is wanting. To prove this, the subject was so placed that the floor of the glosso-epiglottidean fossa was formed in part by the fallen epiglottis itself, the fossa was filled with water, and traction was applied to the tongue; but, however forcible the traction might be, it did not cause the water to be spilled.

The only way by which the epiglottis can certainly be raised is by extension of the head and neck. By this means its elevation is immediate and complete, because by a three-linked chain—of which the hyo-epiglottic ligament is the lower link, the body of the hyoid bone the central link, the combined genio-hyoidei and mylo-hyoidei muscles the upper link—the epiglottis is so coupled to the inferior maxilla, just where it has its greatest range of motion, that above a certain point, as the lower jaw is moved upward, the epiglottis inevitably moves upward until it is erect. The customary wrenching asunder of the clenched teeth in proportion as it depresses the body of the lower jaw antagonizes a distinct effort of nature to maintain the elevation of the epiglottis and favors its depression.

When the head and neck are completely extended, the tongue, the dorsum of which before fell by gravitation upon the horizontal posterior wall of the pharynx, falls upon the now horizontal arch of the palate; the velum palati, by means of the tension of the palato-pharyngeal muscles, is pulled away from the posterior wall of the pharynx, the entire membrane stretched forward and downward behind part of the dorsum of the tongue, forming a partition which helps to keep the tongue out of the pharynx, and with part of the dorsum forms the anterior wall of a new post-oral air-way; the pharynx anteriorly is stretched far forward by the tense steno-thyroidei muscles acting through the thyreoid cartilage. By the genio-hyoidei and mylo-hyoidei acting through the hyoid bone, the base of the tongue and the velum palati are shifted forward, and the posterior nares are shifted by the extension of the head about sixty degrees. Posteriorly, the wall of the pharynx is shifted back by the extension of the cervical vertebræ upon each other in all about thirty degrees, the extension being greatest opposite the glottis. Thus the upper air-passages are rendered quite free. To obtain these full effects the extension must be complete, but frequently a slight elevation and extension of the chin will at once check stertor or irregularity of breathing. The various modes of treatment of apnœa, as inversion, chucking under the chin, and pressing forward the angle of the jaw, are, he claims, successful, as they succeed in producing the elevation of the epiglottis.

**The Nature of the Vocal Bands and the Hyo-epiglottic Muscle.**—Bland Sutton ("Lancet," Nov. 17, 1888) maintains that the true vocal bands are the result of the tendinous metamorphosis of a portion of the thyreo-arytænoideus muscle; that the false vocal bands, with the cuneiform cartilages of Wrisberg, are the degenerate representatives of a piece of cartilage which originally connected the epiglottis with the cornicula laryngis (cartilages of Santorini); that the hyo-epiglottic ligament is the degenerate representative of the hyo-epiglottic muscle so largely developed in whales, horses, ant-eaters, many monkeys, and other mammals, sometimes appearing in man.

**Abnormity of the Clavicles.**—Walsham has exhibited before the Medical Society of London (" Lancet," Nov. 3, 1888) a boy, aged eleven, with a peculiar abnormity. He had suffered from rickets and had lateral curvature of the spine. The sternal two thirds of the clavicles were normal, but the acromial thirds were apparently absent, the finger in this situation coming upon the coracoid process. They terminated in blunt ends which were either free or loosely attached by some indistinct fibrous bands to the coracoid process. There was no history of injury, pain, or trouble indicative of fracture. The arms could be raised to their full extent, in which position he was able to support considerable weight. There was no tendency of the shoulders to drop forward. The case is of much interest as showing how little disability was caused by the absence of the support of the clavicles.

**The Angle of the Neck of the Thigh Bone with the Shaft.**—Professor Humphrey deduces the following conclusions from his observations (" Lancet," Nov. 17, 1888): The angle formed by the neck of the thigh bone with the shaft varies considerably in different persons of the same age. It is smaller in short bones than in long bones, and is usually small when the pelvis is wide, the combination of these two conditions rendering it usually smaller in women than in men. The angle decreases during the period of growth, before and after birth; but after growth has been completed it does not usually undergo any change, even if life is prolonged to extreme old age, the commonly received opinion on this point being erroneous. Some change may take place in rare cases; but, as a rule, the angle remains the same from the adult period till death. If during growth the limb is relieved of the weight of the body, as in paralysis or after amputation in the thigh, the angle of the neck with the shaft usually retains the open form of early life, or may become wider, as it not infrequently does.

**A Fœtal Malformation.**—Hardwicke (" Lancet," Nov. 17, 1888) records the birth of a fœtus in which the parietal and frontal bones, as well as the cerebrum, were entirely absent. In the basin of the calvaria was found the smooth surface of what appeared to be the dura mater, covering the inner surface of the bones, cerebellum, pons Varolii, and orbits, the eyes being in their normal positions. It was impossible to obtain a detailed investigation by dissection. The mother had been married six years, had had one child four years previously, had had no miscarriages, and there was no history of syphilis on either side.

**A Rare Abnormity of the Aortic Arch.**—Brodie relates this case (*ibid.*): The innominate artery was absent, being replaced by a short, thick trunk, which gave off two branches ascending on either side of the trachea to the place of the common carotids, that on the right giving off one corresponding to the vertebral. Next in order from the arch was the left vertebral, which entered the foramen in the transverse process of the fifth cervical, and gave a branch to the thyreoid. Another branch arose from the first part of the subclavian on the left side. The right subclavian arose from the arch as a fourth branch and passed behind the œsophagus and trachea.

**Relations between the Superficial Origins of the Spinal Nerves from the Spinal Cord and the Spinous Processes of the Vertebræ.**—Reid (*ibid.*) finds from the examination of a number of spinal cords, the investigation being conducted with the body in the horizontal and then in the upright posture, that the posterior and the anterior roots of nerves belonging to the same segment leave the cord at the same level, and that the superficial origin of any individual spinal nerve has no fixed and definite relation to the apex of one, or the apices of two spinous processes, or to the space intervening between two, as might be supposed from the tables of Nuhn and Jadlot. He gives the following summary of the limits within which he found that the posterior and anterior nerve-roots took their superficial origin from the cord in relation to the posterior ends of the spinous processes—*a* signifies the highest point, *b* the lowest point of origin: Second cervical: (*a*) a little above the posterior arch of the atlas; (*b*) midway between the posterior arch of the atlas and the spine of the axis. Third cervical: (*a*) a little below posterior arch of atlas; (*b*) junction of upper two thirds with lower third of the spine of the axis. Fourth cervical: (*a*) just below upper border of spine of axis; (*b*) middle of spine of third cervical. Fifth cervical: (*a*) just below lower border of spine of axis; (*b*) just below lower border of spine of fourth cervical. Sixth cervical: (*a*) lower border of spine of third cervical; (*b*) lower border of spine of fifth cervical. Seventh cervical: (*a*) just below upper border of spine of fourth cervical; (*b*) just above lower border of spine of sixth cervical. Eighth cervical: (*a*) upper border of spine of fifth cervical; (*b*) upper border of spine of seventh cervical. First dorsal: (*a*) middle of interval between spines of fifth and sixth cervical; (*b*) just above spine of first dorsal. Second dorsal: (*a*) lower border of sixth cervical; (*b*) just above lower border of spine of first dorsal. Third dorsal: (*a*) middle of spine of seventh cervical; (*b*) lower border of spine of second dorsal. Fourth dorsal: (*a*) just below upper border of spine of first dorsal; (*b*) junction of upper third and lower two thirds of spine of third dorsal. Fifth dorsal: (*a*) upper border of spine of second dorsal; (*b*) junction of upper fourth and lower three fourths of spine of fourth dorsal. Sixth dorsal: (*a*) lower border of spine of second dorsal; (*b*) just below upper border of spine of fifth dorsal. Seventh dorsal: (*a*) junction of upper third and lower two thirds of spine of fourth dorsal; (*b*) just above lower border of spine of fifth dorsal. Eighth dorsal: (*a*) junction of upper two thirds and lower third of interval between spines of fourth and fifth dorsal; (*b*) junction of upper fourth and lower three fourths of spine of sixth dorsal. Ninth dorsal: (*a*) middle of interval between spines of fifth and sixth dorsal; (*b*) upper border of spine of seventh dorsal. Tenth dorsal: (*a*) middle of interval between spines of sixth and seventh dorsal; (*b*) middle of spine of eighth dorsal. Eleventh dorsal: (*a*) junction of upper three fourths and lower fourth of spine of seventh dorsal; (*b*) just above spine of ninth dorsal. Twelfth dorsal: (*a*) junction of upper fourth and lower three fourths of spine of eighth dorsal; (*b*) just below spine of ninth dorsal. First lumbar: (*a*) middle of interval between spines of eighth and ninth dorsal; (*b*) lower border of spine of tenth dorsal. Second lumbar: (*a*) middle of spine of ninth dorsal; (*b*) junction of upper third and lower two thirds of spine of eleventh dorsal. Third lumbar: (*a*) middle of spine of tenth dorsal; (*b*) just below spine of eleventh dorsal. Fourth lumbar: (*a*) just below spine of tenth dorsal; (*b*) junction of upper third and lower two thirds of spine of twelfth dorsal. Fifth lumbar: (*a*) junction of upper third and lower two thirds of spine of eleventh dorsal; (*b*) opposite middle of spine of twelfth dorsal. First sacral: (*a*) lower border of spine of eleventh dorsal; (*b*) lowest point of origin of the fifth sacral, the lower border of spine of first lumbar. Coccygeal: (*a*) lowest border of first lumbar; (*b*) just below the upper border of second lumbar.

**Histological Events on the Borders of Ossification.**—The explanation of the mode of formation and growth of the osseous system as understood at present is almost universally acknowledged to be correct, but still some special questions are in dispute, particularly whether the cells of the epiphyseal cartilage are changed at the line of ossification into cartilage covered-osteoblastic cells—the so-called endochondral ossification—are unchanged, or perish. To elucidate this question, Leser (" Beilage z. Ctrlbl. f. Chir.," No. 24, 1888) has instituted researches upon dogs, cats, and rabbits, with the following results:

In the epiphyseal cartilage the new growth of cells follows the same rules that are acknowledged to be characteristic of the new growth of cells in other tissues. A number of typical changes in form exhibited the division of the nucleus and then of the cell. The product of the process of growth in the epiphyseal cartilage is a great number of peculiarly smooth cells, which by their arrangement in long columns take part in the longitudinal growth of the bones. In the neighborhood of the medulla there are changes noticed with the newly formed cells which seem to throw light upon their actual transition; the protoplasm of the cells is pale, it looks watery, the nucleus loses its encapsulating substance and appears like a small bubble. Quite close to the line of ossification, sometimes in the midst of it, are many of the often very large cartilaginous hollows, quite empty or filled with the remains of the protoplasmic cell substance. Every trace of caryocinetic figures is wanting in the cells of this zone. Vessels and their branches enter the capsule-like spaces, which may be either empty or full of cells; they are filled very quickly, as they are in immediate connection with the blood-vessels, full of red corpuscles, which pass out from the medullary canal. Immediately after the vessels one notices relatively large, clearly granular cells of various forms, which fill the spaces first left vacant. They (the cells) originate in the medulla and appear to be identical with Gegenbauer's osteoblasts.

**Congenital Recto-urethral Fistula.**—Mr. Page ("Brit. Med. Jour.," Oct. 20, 1888) reports this curious case: A man, aged fifty-four, applied for relief, and gave the following history: Immediately after birth it was discovered that fæces and urine were passed from the meatus urinarius, and that the anus was imperforate. An unsuccessful operation was performed to establish an anus. At the age of ten years the urethra became blocked with hardened fæces, and an incision was made into the urethra immediately in front of the scrotum. A fistula remained in this situation, through which he continued to pass his urine and fæces with much difficulty and discomfort, until finally the urethra became blocked and he had to seek assistance. The fistula in front of the scrotum was enlarged with so satisfactory a result that the patient refused to submit to any other operation.

## Miscellany.

**The American Pharmaceutical Association.**—At the thirty-seventh annual meeting, to be held in San Francisco on the 24th, 25th, 26th, 27th, and 28th of June, the following list of queries will be considered:

1. A pharmaceutical comparison of the extracts of *Acacia catechu* and *Uncaria gambier*. As "catechu" the U. S. P. directs the extract of *Acacia catechu;* the Br. P. directs extracts of *Uncaria gambier*. Which of the two is preferable for pharmaceutical uses?

2. Is it feasible to improve the syrups in the Pharmacopœia? An essay on the subject is desired, with practical suggestions for improvement, particularly for syrupus aurantii corticis, syr. tolutanus, syr. zingiberis, syr. rhei, syr. rhei aromaticus, syr. sarsaparillæ compositus.

3. Is it desirable and practicable to abolish the present tinctures and fluid extracts of the Pharmacopœia, and to establish in their stead a single class of preparations styled tinctures, of uniform strength, and of 50 per cent. of drug value, or of such proportion as can be exhausted by the combined process of maceration and percolation without subsequent concentration?

4. Is it not advisable to drop from the United States Pharmacopœia all compound galenical preparations?

5. Further researches on the alkaloids of *gelsemium*. Is the alkaloid *gelsemine* the only constituent of the drug having medicinal value?

6. What is the quality of belladonna root as obtained through reliable dealers? How does it compare with belladonna leaves in regard to uniformity in strength?

7. What is the natural combination or association of the alkaloids and resinous constituents of *Veratrum viride?*

8. Further researches on the crystalline precipitate that occurs in tincture of white agaric.

9. Do pharmacists generally follow the Pharmacopœia in the preparation of tincture of nux vomica? What bearing, if any, has the result of this inquiry upon introducing into the Pharmacopœia assay methods in other processes?

10. What is the influence of heat and moisture as a preparatory step in the extraction of some drugs?

11. It has been proposed to introduce into the next United States Pharmacopœia processes of assay for such drugs and their preparations (besides those already thus provided for in the last revision) as contain important active principles which may be estimated quantitatively. As it is important that the method of assay shall be as simple, concise, and free from refined technicalities as possible, it is desired that the text for working processes of a series of these drugs be drawn up so that it may be thoroughly tested in advance of the appearance of the work.

12. Colchicum seed contains a fixed oil which renders its alcoholic preparations unsightly. Has this oil any medicinal value? If not, can it be removed without detriment to the preparation?

13. What amount of the drug sold in commerce under the name of *Berberis aquifolium* is of the other species of *Berberis—i. e., B. repens* and *B. nervosa?*

14. What is the comparative value of *yerba santa*, licorice, and saccharin in masking the taste of quinine and other bitter substances?

15. It has been asserted that under the name "Hungarian daisies" an adulterant for insect powder has been introduced. To what extent is this adulterant imported?

16. It has been observed that fluid extract of belladonna is a neutral solution when first made, and that by age it acquires an acid reaction. What is the cause of this change, and does it affect the medicinal value of the preparation?

17. Examine some of the more important solid extracts of the market for mineral impurities, chiefly copper, and ascertain the conditions under which this metal may be most accurately estimated, in such cases, by electrolysis.

18. What is the nature of the change which solutions of morphine salts (notably the hydrochloride) undergo by time, and what is the crystalline body which makes its appearance?

19. How many new albumin products result in pepsin digestion? Can these products be isolated? and by what tests can they be distinguished?

20. Gelatin has been suggested as a superior emulsifying agent for cod-liver oil. Can this be verified? If so, give working formula for a permanent emulsion.

21. Has syrup of dextrin a use in pharmacy? Give formula and instances where it could to advantage replace cane-sugar syrup.

22. A further consideration of maize oil. Can it be advantageously employed in pharmacy in place of cotton-seed oil or other oils now in use?

23. What are the present sources of commercial oil of wintergreen? and what proportion is derived from each source? Is the synthetical product ever sold as natural oil? To what extent does the artificial oil of wintergreen replace the natural oil or oil of birch?

24. Essential oils are said to be adulterated before reaching the dispenser to a greater extent than any other medicinal products, and also to materially differ in quality even when pure. What are the best methods of detecting adulterations and of determining the quality of the principal volatile oils?

25. It has been stated by competent authorities that the characteristics and physical or chemical properties ascribed to many essential oils by the U. S. or other pharmacopœias often do not fit the commercial oils, even when the latter are known to be genuine. It is desired that as many of the more important official essential oils as possible be carefully re-examined, account being taken of all facts that may be rendered available by those who manufacture and handle these products on a large scale.

26. Complaints have been made that several brands of terebene offered in the market differ but little in physical or medicinal properties from oil of turpentine. Examine all available brands as to their optical properties.

27. Is the reaction of methozin (antipyrin) with spirit of nitrous ether owing to the free acid present in the spirit? It is said not to react (with coloration at least) with some specimens of spirit of nitrous ether.

28. What directions should be given in the pharmacopœias for the care and preservation of spirit of nitrous ether?

29. The official method of assaying spirit of nitrous ether having been shown to be unsatisfactory, and better methods having been announced during the last few years, it is very desirable to have drawn up an improved assay process, giving all the details as concisely as possible, but not referring the reader to other works to be consulted.

30. Acetic ether of the market varies greatly as to strength and properties. It is desired that experiments be made to ascertain the limit of range of absolute acetic ether, and also to determine the nature and proportion of the other constituents.

31. What are the products of the reaction in preparing the decolorized tincture of iodine of the National Formulary? To what substance is the peculiar alliaceous odor due which develops in it on standing?

32. Sulphonal, which has acquired some reputation as an efficient hypnotic, is pharmaceutically very intractable. It is desired that working formulæ be devised which will admit of its use, if possible, in solution, but at all events in such a manner that absorption will take place more rapidly.

33. A series of very soluble compounds of caffeine has been announced under names similar to those applied to regular double salts, for instance, sodio-cinnamate of caffeine, sodio-benzoate of caffeine, sodio-salicylate of caffeine. Can it be shown whether true double salts of this composition can be prepared? Or can some light be thrown on their constitution?

34. Hypophosphorous acid has been found to greatly retard, and under certain conditions to entirely prevent, the oxidation of ferrous salts to ferric, even when only minute quantities of the acid are present. It is desirable to ascertain: 1. What rôle the acid bears in this preservative action. 2. What are the limits as to the quantity of acid which will preserve ferrous solutions and as to the time during which such preservation extends. 3. What becomes of the hypophosphorous acid? 4. Will hypophosphites answer the same purpose? 5. May this preservative agent be used in the case of other chemicals besides ferrous salts?

35. Solution of chloride of iron is declared by the United States Pharmacopœia, when prepared by the official process, to have the spec. grav. 1·405. Other authorities state that this figure is scarcely ever reached. Is it possible to so reconstruct the formula that all doubt as to the amount of iron in solution may be eliminated?

36. It has been observed, in preparing the syrup of citro-iodide of iron according to the National Formulary, that the solution does not turn green upon adding the potassium citrate and iodine, but after being mixed with the sugar and exposed to the sunlight for a few hours the reddish color is gradually changed to the characteristic green color, which seems to be permanent. What is the reaction that takes place?

37. Should a working formula for "green soap" be introduced into the Pharmacopœia, similar to that of the German Pharmacopœia, in order to insure more uniformity?

38. An essay on corrosive sublimate as a disinfectant is desired. Do the advantages derived from its use outweigh the disadvantages?

39. In what quantity and to what extent is arsenic present in wall paper? Is the public health thereby in any degree affected?

40. Give a glossary of practically obsolete botanical, chemical, and pharmaceutical terms, but such as may still be occasionally met with by pharmacists.

41. Can not the nomenclature of the Pharmacopœia be improved? A paper is desired on "Pharmacopœial Nomenclature."

42. What system of weights and measures should be adopted in the next revision of the United States Pharmacopœia?

43. With what degree of accuracy are powders ordinarily divided in dispensing?

44. Do pharmacists give the public all the protection it should have at their hands in the way of adulterated, poor, and dangerous drugs and preparations?

45. An essay on "How to conduct Quiz Classes" in our pharmaceutical educational institutions.

46. Is it practical or desirable to have a recognition and interchange of pharmacy certificates by the different State boards of pharmacy? and, if so, how can this end be accomplished?

47. What should be the true aim of boards of pharmacy in their examinations, and how can it be best accomplished?

48. What is the policy of the patent and trade-mark laws in relation to the science of medicine and the useful arts of pharmacy and therapy?

49. It has been asserted on good authority that inventions and discoveries not patented are public property, and that any attempt on the part of an inventor to monopolize his invention, except by means of the requirements imposed by the patent laws, is a usurpation of public rights. How can the pharmacist be taught that it is his privilege and prerogative to manufacture any and all medicines not patented, and to call them by the names known to the public, all claims to the contrary notwithstanding?

50. Under the present code of ethics of the American Medical Association, can pharmacists be given creditable recognition as a section in this organization?

51. The membership of the American Pharmaceutical Association is said to comprise but a small proportion of the qualified druggists of America, and even less than five per cent. of the whole number of those engaged in the drug business. What means can be devised to bring about a more liberal representation?

52. Is the college training in pharmacy after two years' practical experience better for the student than the reverse—viz., theoretical first and practical afterward?

**The Canadian Medical Association.**—The twenty-second annual meeting will be held at Banff, N. W. T., on the 12th, 13th, and 14th of August next. The following circular has been issued: "The Canadian Pacific Railway Company has agreed to carry members and delegates with their wives or members of their families at the following rates: From points in Ontario or Quebec to Banff and return at $95 each, including a double berth in sleeping car for each person, and meals in the dining cars on the way west from Montreal or Toronto and back, and four days' living at the Banff Hotel. The passage tickets will be made good from and to any points on the Canadian Pacific Railway, in either Ontario or Quebec, to Montreal or Toronto, but berths and meals will begin at these two places only. From other points in the Dominion the rates will be as follows: From Halifax to Banff and return, $110; from St. John, N. B., to Banff and return, $100; but the tickets from these points will not include sleeping-car accommodations nor meals east of Montreal in either direction. From Port Arthur to Banff and return the rate will be $60; from Winnipeg or Brandon, $50; from Regina, $35—including meals and berths from all these points. From Calgary the rate will be $4.50, without meals or berths. From Victoria or Vancouver to Banff and return, including meals and dining car and double berth in both directions, $30, exclusive of hotel accommodation at Banff, or $40 including four days' hotel accommodation at Banff. Owing to the provisions of the Interstate Commerce Law, it will be impossible to get reduced rates from points in the United States, with the exception of St. Paul, Minn., from which the following rate is offered: $60 to Banff and return, including meals and sleeping-car accommodation *between Winnipeg and Banff only.* Delegates fromt he United States are therefore requested to make their own arrangements between their homes and Montreal, Toronto, St. Thomas, or other points on the Canadian Pacific Railway. An effort is also being made to secure special rates from Liverpool to Montreal by the Canadian steamship lines for Transatlantic delegates. It is intended that the party shall leave Montreal on the evening of the 6th of August, by the regular Pacific Express, and arrive in Winnipeg on the 9th and stop over one day there; leaving Winnipeg on the 10th of August, they will arrive at Banff early on the morning of Monday, August 12th. The meetings of the association will then be held in the hotel (*accommodation being provided by the Canadian Pacific Railway Company*) on the 12th, 13th, and 14th, after which the members of the party can either return at their convenience or take a trip to the coast, leaving early the following morning (August 16th), for which special terms have been arranged as follows: From Banff to Victoria and return, not including meals or berths, $20; or $30, including meals in the dining car and berths. The tickets for this excursion will be on sale at Banff to members and delegates and their families only. The special tickets issued by the Canadian Pacific Railway to Banff and return will be good for sixty days, and the holders will be allowed stop-over privileges on the Canadian Pacific Line in either direction at pleasure. They will also be exchangeable at Port Arthur and Owen Sound, so as to enable members to travel in either direction by steamer between these points. Meal and berth coupons will be issued in connection with these tickets, and will be available as part payment of expense of any who wish to make additional stops and spend longer time on the line. It is considered desirable, however, by the executive officers of the association that, as far as possible, the party should travel together by the all-rail route as far as Banff, so that all may be present at the opening of the meeting. In addition to the members of the Canadian Medical Association to whom this circular is specially addressed, a cordial invitation is hereby extended to all members of the regular profession in good standing in the Dominion of Canada, the United States, and Great Britain, to whom the necessary certificates will be sent on application to the secretary. Members and delegates are requested to notify the secretary of the points on the Canadian Pacific Railway from which they intend to start at a sufficiently early date to enable the railway company to forward special tickets to the aforesaid points. It will also be necessary to present a certificate from the general or provincial secretary to enable members or delegates to secure the above-mentioned special tickets. Members who intend to present papers at this meeting are requested to inform the secretary at as early a date as possible of the subjects which they propose to bring forward."

**The British Medical Association.**—At the fifty-seventh annual meeting, to be held in Leeds on the 13th, 14th, 15th, and 16th of August, the following discussions have been arranged for the Section in Obstetric Medicine: "The Treatment of Placenta Prævia," by Dr. Braxton Hicks, Dr. Robert Barnes, Dr. Gervis, Dr. Aust Lawrence, Dr. Malins, Dr. Playfair, Dr. Priestley, Dr. Wallace, Mr. Hall, and Mr. Wright; and "Corporeal Endometritis: its Frequency, Diagnosis, and Treatment," by Dr. Herman, Dr. Braithwaite, Dr. Byers, Dr. Halliday Croom, Dr. Gervis, Dr. Aust Lawrence, Dr. Playfair, Dr. Priestley, Dr. Wallace, and Mr. Pridgin Teale.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending May 3d:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y. | April 27. | 1,563,452 | 830 | .. | .. | .. | .. | .. | .. | 3 | 51 | 54 | 12 | 19 |
| Philadelphia, Pa. | April 20. | 1,040,245 | 423 | .. | .. | .. | .. | 1 | .. | 8 | 2 | 10 | 2 | 2 |
| Philadelphia, Pa. | April 27. | 1,040,245 | 395 | .. | .. | .. | .. | .. | .. | 15 | 5 | 6 | 2 | 4 |
| Chicago, Ill. | April 27. | 830,000 | 256 | .. | .. | .. | .. | .. | .. | 2 | 8 | 18 | 4 | 1 |
| Brooklyn, N. Y. | April 27. | 821,525 | 324 | .. | .. | .. | .. | | .. | .. | 9 | 28 | 15 | 4 |
| Baltimore, Md. | April 27. | 500,343 | 132 | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | 2 |
| San Francisco, Cal. | April 19. | 330,000 | 121 | .. | .. | .. | .. | .. | .. | 4 | .. | 2 | .. | .... |
| Cincinnati, Ohio | April 27. | 325,000 | 128 | .. | .. | .. | .. | .. | .. | 2 | .. | 7 | 1 | 1 |
| New Orleans, La. | April 20. | 254,000 | 118 | .. | .. | .. | .. | .. | .. | .. | .. | 7 | .. | .... |
| Cleveland, Ohio | April 6. | 235,000 | 80 | .. | .. | .. | .. | .. | .. | 2 | 1 | 2 | . | .... |
| Cleveland, Ohio | April 13. | 235,000 | 88 | .. | .. | .. | .. | .. | .. | 2 | 1 | 1 | .. | .... |
| Pittsburgh, Pa. | April 27. | 230,000 | 96 | .. | .. | .. | .. | .. | .. | 2 | 1 | 1 | .. | .... |
| Detroit, Mich. | April 20. | 230,000 | 57 | .. | .. | .. | .. | .. | .. | .. | .. | . | 1 | .... |
| Washington, D. C. | April 27. | 225,000 | 85 | .. | .. | .. | .. | .. | .. | 1 | 4 | 1 | .. | .. |
| Milwaukee, Wis. | April 27. | 210,000 | 49 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Minneapolis, Minn. | April 20. | 200,000 | 54 | .. | .. | .. | .. | .. | .. | 1 | 1 | 6 | .. | .... |
| Newark, N. J. | April 23. | 181,351 | 82 | .. | .. | .. | .. | .. | .. | .. | 2 | 2 | .. | 1 |
| Kansas City, Mo. | April 27. | 180,000 | 36 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .... |
| Rochester, N. Y. | April 27. | 120,000 | 50 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Richmond, Va. | April 20. | 100,000 | 20 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Richmond, Va. | April 27. | 100,000 | 32 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Denver, Col. | April 26. | 100,000 | 30 | .. | .. | 2 | .. | .. | .. | .. | .. | 1 | .. | .... |
| Toledo, Ohio | April 26. | 83,500 | 23 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Nashville, Tenn. | April 27. | 65,153 | 19 | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | .... |
| Fall River, Mass. | April 27. | 65,000 | 21 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Charleston, S. C. | April 20. | 60,145 | 28 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Charleston, S. C. | April 27. | 60,145 | 25 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | 1 | .... |
| Lynn, Mass. | April 27. | 50,000 | 18 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me | April 27. | 42,000 | ...... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Manchester, N. H. | April 20. | 42,000 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| E. Saginaw, Mich. | April 27. | 40,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Galveston, Texas | April 12. | 40,000 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Galveston, Texas | April 19. | 40,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Council Bluffs, Ia. | April 13. | 35,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Council Bluffs, Ia. | April 20. | 35,000 | ...... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Davenport, Iowa | April 20. | 33,715 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | 4 | .. | .... |
| Davenport, Iowa | April 27. | 33,715 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Altoona, Pa. | April 20. | 30,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Auburn, N. Y. | April 27. | 26,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Newport, R. I. | April 25. | 22,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newton, Mass. | April 27. | 21,553 | 7 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Keokuk, Iowa | April 20. | 16,000 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Keokuk, Iowa | April 27. | 16,000 | 6 | .. | .. | .. | .. | .. | .. | .. | . | 2 | 2 | .... |
| Pensacola, Fla. | April 20. | 15,000 | 5 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |

**So-called French Brandy.**—An article entitled "Cognac," by H. Barton Baker, published in the February number of "The English Illustrated Magazine," after describing the dreary and desolate condition of the trade in real brandy in Cognac, closes with the following statements: "'Fin champagne' brandy of the finest quality, that is to say, forty years old, is worth twenty francs a bottle in Cognac; by the time the duty is paid, and the two or three hands it passes through before reaching the consumer have received their profits, the cost must rise to at least twenty-five shillings a bottle. . . . But, while an utter stagnation of business prevails among the large houses, some of the smaller ones are driving a brisk trade—not, however, with the production of the *grape*. From Holland and Germany large consignments of spirit obtained from grain, potatoes, beet, or any refuse from which alcohol can be distilled, are sent into Cognac. This new, fiery liquor is doctored, watered, flavored, colored, put into bottles or casks, branded 'cognac,' and is received as such all over the world. The writer of this article has been in the Dutch distilleries where this poison was being distilled for the French markets. This is the stuff the English publican vends, sometimes pouring it out of old bottles bearing a well-known label to deceive his customers. In fine, it is this decoction that is generally drank in this country and Germany and in all parts of France as well, especially in the Parisian cafés, under the name of cognac. Those who drink pure brandy nowadays have to pay very dearly for the article."

## ANSWERS TO CORRESPONDENTS.

*No. 262.*—The code says: "It is derogatory to the dignity of the profession to resort to public advertisements or private cards or handbills inviting the attention of individuals affected with particular diseases."

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Original Communications.

## A TONIC FORMULA.

BY AUSTIN FLINT, M. D., LL. D.,
PROFESSOR OF PHYSIOLOGY IN THE BELLEVUE HOSPITAL MEDICAL COLLEGE, NEW YORK; VISITING PHYSICIAN TO BELLEVUE HOSPITAL.

IN the "New York Medical Journal" for July 31, 1886, Professor Allard Memminger, of Charleston, S. C., published a short article on "Bright's Disease of the Kidneys successfully treated with Chloride of Sodium." The salt is given in doses of ten grains three times daily, the doses being increased by ten grains each day until they amount to fifty grains each. It is then diminished to sixty grains in the day and continued. I employed this treatment in a few cases, but did not meet with the full measure of success noted in four cases reported by Professor Memminger, although in some instances there was considerable improvement. The suggestion by Professor Memminger, however, and his theory of the mode of action of the sodium chloride, pointed to a possible deficiency in certain cases of disease in the saline constituents of the blood. Under this idea I prepared a formula in which most of the important inorganic salts of the blood are represented, with an excess of sodium chloride and a small quantity of reduced iron, the various salts, except the sodium chloride, being in about the relative proportion in which they exist in the normal circulating fluid. I first used this preparation in the form of powder, giving ten grains three times daily after eating. It was afterward put up in gelatin capsules, each containing five grains, but these absorbed moisture so that they would not keep well in warm and damp weather. With the assistance of Fraser & Company, 208 Fifth Avenue, New York, I finally modified the formula so as to avoid this difficulty. The preparation is now in the form of compressed tablets made by Fraser & Company, tablets made by Caswell, Massey, & Company, 1121 Broadway, and sugar coated tablets made by Wanier & Imgard, 1322 Broadway—all under the name of saline and chalybeate tonic. I usually prescribe two tablets three times daily after eating. Of these preparations I prefer the sugar-coated tablets, the others occasionally producing slight nausea. In a few cases six tablets daily have produced some "fullness" of the head, when I have reduced the dose to one tablet three times daily.

The following is the formula that I finally adopted, the product of which may be put up in capsules:

*Saline and Chalybeate Tonic.*

| | |
|---|---|
| ℞ Sodii chloridi (C. P.) | ʒ iij; |
| Potassii chloridi (C. P.) | gr. ix; |
| Potassii sulph. (C. P.) | gr. vj; |
| Potassii carb. (Squibb) | gr. iij; |
| Sodii carb. (C. P.) | gr. xxxvj; |
| Magnes. carb | gr. iij; |
| Calc. phos. præcip | ʒ ss; |
| Calc. carb | gr. iij; |
| Ferri redacti (Merck) | gr. xxvij; |
| Ferri carb | gr. iij. |

M. In capsules, No. 60.

Sig.: Two capsules three times daily after eating.

I first used this tonic in a case of simple anæmia in Bellevue Hospital in July, 1887. In this case the anæmia was profound and the pallor excessive. It had existed for several weeks, there was loss of appetite, and the patient, a female about thirty years of age, was very weak and unable to leave the bed. A powder of ten grains was given three times daily, and this, with good diet, constituted the only treatment. In forty-eight hours the patient was sitting up, with a fair appetite and improved in appearance, notably in color. At my next visit, two days later, she had left the hospital and was greatly improved.

Since the summer of 1887 I have given the tonic in nearly every case in private practice in which a chalybeate was indicated. In many cases I have not been able to watch the effects of the remedy, and in many I kept no records. In thirty-three cases which I have noted as cases of anæmia, with loss of appetite, etc., I have more or less complete records. In twenty-two cases I noted very great improvement, in twelve cases improvement not so well marked, and in one case no improvement.

I have also records of five cases of chronic Bright's disease of the kidneys in adults in which the tonic was the only medicinal remedy employed. The following is a brief report of these cases:

CASE I.—Male, intemperate, height five feet seven inches, weight in health two hundred and sixteen pounds, age twenty-eight. He had lost about sixty pounds in weight within nine months, weighing now one hundred and fifty-five pounds. The urine had a specific gravity of 1·012 to 1·015, and was loaded with albumin. There were granular casts in abundance. He was put upon the "tonic," ten grains three times daily, and told to stop drinking. After about six weeks of "moderate" drinking, but constant use of the tonic, he had greatly improved. He then began drinking heavily and stopped the tonic. About a week after this the urine had a specific gravity of 1·021, there was a very small quantity of albumin, with no casts. He then resumed the tonic and drank less. In three days he was much improved. The urine had a specific gravity of 1·024, with a faint trace of albumin, and no casts. I saw the patient about five months after the beginning of treatment. He had been taking the tonic regularly for the past three months, but had frequently drank to excess. He was, however, much improved and had gained seven pounds in weight. His urine had a specific gravity of 1·022, with no albumin (or the faintest trace), and no casts. About ten weeks after this he had been drinking heavily and had a mild attack of delirium tremens. His urine had a specific gravity of 1·010½ with six grains and a half of urea to the ounce. There was no albumin and there were no casts. Under treatment for alcoholism he improved rapidly and was out in three days. Within the last year I have seen the patient casually from time to time, but have not had an opportunity of examining the urine. He looks well and says he is in perfect health, but he still drinks, and sometimes to great excess.

CASE II.—This patient was about fifty years of age, looking in fair health, whose urine I examined in September, 1886, and found a trace of albumin. In February, 1888, I examined the urine and found a specific gravity of 1·012 and a considerable quantity of albumin, but no casts. I then ascertained that for several months he had drank about a bottle of whisky daily. He was directed to stop drinking and take of the tonic two capsules three times daily. Three weeks after he had taken the tonic regularly the urine was normal and had a specific gravity of 1·024. I had reason to think that the patient continued to drink to excess, but I could not keep the case under observation.

Case III.—The patient was a widow, thirty-eight years of age. About six weeks before she came under observation she noticed that her sight was failing; she could not distinguish faces and did not go alone in the streets. The urine was abundant, with a specific gravity of 1·011½ and a small quantity of albumin. She had lost considerable flesh within the past two months. There was a mitral systolic with an aortic diastolic murmur, but no enlargement of the heart. There was slight œdema of the feet. She was put upon the use of the tonic, two capsules three times daily. In a week I saw her again. There was no marked change. She complained of want of sleep, and was directed to take five grains of acetanilide at night and to reduce the tonic to one capsule three times daily. She left the city and went to a village in Ontario for the summer. In January, 1889, eight months after, she wrote for a renewal of the tonic prescription, and said she had been perfectly well until within a few days, but gave no details.

Case IV.—A clergyman, fifty years of age, of perfectly temperate and regular habits, had become "run down" from overwork and had lost twenty-three pounds in weight within seven or eight months. Within a few weeks albumin had been discovered in the urine. On physical examination, I found nothing abnormal except the urine and a reduplication of the first sound of the heart. The urine had a specific gravity of 1·022, with albumin in considerable quantity, and a few hyaline casts of medium size. He was put upon the use of the tonic, two sugar-coated tablets three times daily after eating. He went to Bermuda, January 20, 1889. On April 1, 1889, he returned from Bermuda, feeling "perfectly well." He brought a report of a number of examinations of his urine, which showed a small quantity of albumin and no casts. On April 1st the urine had a specific gravity of 1·021 with a moderate quantity of albumin. He had taken the tonic regularly since January 29th.

Case V.—A widow, fifty-nine years of age, about ten years ago began to lose weight rapidly. Since that time she had lost about twenty pounds. About five years ago she noticed a considerable increase in the quantity of urine, with excessive thirst. The history was that of dietetic diabetes, but the disease was recognized only a few days before she came under my care. The urine had a specific gravity of 1·016½, with a large quantity of albumin and six grains and a half of sugar to the ounce. There were no casts, and the quantity of urea was four grains to the ounce. There was slight œdema of the feet.

Under a strict antidiabetic diet for two days the sugar disappeared from the urine, the specific gravity was 1·013, and the quantity of albumin was slightly diminished. The quantity of urea was six grains to the ounce. The œdema had disappeared. She was then put upon the use of the tonic, one capsule three times daily.

Four days after, the tonic was increased to two capsules three times daily, and the patient was allowed to have a little bread. The urine contained no sugar, but the quantity of albumin was unchanged.

Nine days after she came under treatment the urine had a specific gravity of 1·015½, with a faint trace of sugar, and the quantity of urea was six grains and three quarters to the ounce. The quantity of albumin was very much diminished.

Two days after, the quantity of urine was normal, specific gravity 1·012½, urea six grains and a half to the ounce, albumin in small quantity, a trace of sugar, no casts.

The general diabetic symptoms disappeared on the second day of treatment.

These five cases of albuminuria are reported with reference only to the effects of the "saline and chalybeate tonic." In all the cases the tonic seemed to exert an influence on the quantity of albumin in the urine, which was specially marked in Case I.

In the great majority of the cases of anæmia, etc., in which iron was strongly indicated, the tonic seemed to act much more promptly and favorably than the chalybeates usually employed. In a certain number of cases in which patients stated that "they could not take iron in any form" the tonic produced no unpleasant effects.

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## COMBINED OPERATIONS IN GYNÆCOLOGY.*

By PAUL F. MUNDÉ, M. D.

Many of the lesions and pathological conditions of the female sexual organs which require surgical interference for their relief are produced more or less directly by parturition; and as the same factors (hasty or protracted labor, narrow vagina and rigid perinæum, instrumental delivery, too early getting up, etc.) are prone to influence different portions of the genital tract at the same time, we frequently meet with two or more lesions in the same case at the same time. Thus, nothing is more common than to find with a lacerated perinæum a torn cervix; with a torn cervix and perinæum, a subinvoluted, retroverted, and prolapsed uterus; with a ruptured perinæum, a prolapsus or redundancy of the posterior vaginal wall, often combined with the same condition of the anterior vaginal wall; with a lacerated cervix, a villous endometritis, accompanying a subinvolution produced and maintained by the cervical lesion. And occasionally an injury of the bladder or rectum in the shape of a fistula may exist, together with one or more of the other injuries named. Thus in one case I found a lacerated cervix, a lacerated perinæum, a retroversion with descensus, and a vesico-vaginal fistula.

Naturally, with the view to saving the patient a repeated anæsthesia and confinement in bed, and thus, if it is a private case, additional expense for a nurse and professional services, as well as to economize the operator's time and trouble, our impulse would be to combine several of the operations necessary to restore the injured parts to their normal condition at one sitting, and this would at first glance appear easy and simple. Thus to repair the cervix and the perinæum, or the rectocele and cystocele, at one sitting, certainly is perfectly feasible, and does not take much time. And there is no objection on the ground of practicability to curetting a uterus, and sewing the torn cervix and perinæum immediately afterward.

Still there are certain reasons why a combination of these operations may not always be wise or successful. I will briefly mention them:

1. Prolonged anæsthesia is not always borne well. I have several times been compelled to defer the second or third operation to another sitting, because alarming cyanosis or a weak heart made me fear to continue the narcosis.

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* Read before the Section in Obstetrics and Gynæcology of the New York Academy of Medicine, March 28, 1889.

2. The serous or sanious discharge from a curetted uterus or a sewn cervix may interfere with the union of the cervix or perinæum, respectively, by insinuating itself between the edges of the new wound, and thus the object of the combination of the two operations, a saving of time, is frustrated.

3. If wire or silk is used on the cervix or vaginal wall, several weeks must elapse before the newly repaired perinæum will bear the stretching of the Sims speculum required to remove the stitches. And during this time of waiting the patients, even though not necessarily confined to bed, have the uncomfortable feeling that the operation is not yet concluded and that something still remains to be done. Besides, unless the ends of the wires are carefully bent down, they may cut into the neighboring parts. I believe there is one case on record where a vesico-vaginal fistula was formed by such a carelessly applied suture of the cervix.

4. In some patients with very vascular organs the amount of blood lost during a series of plastic operations lasting from one to two hours may be greater than they can bear.

All these objections and risks had their weight with me in former years, and while I, as long as fifteen years ago, did trachelorrhaphy and anterior and posterior colporrhaphy in one sitting, I still in the second edition of my book on "Minor Surgical Gynæcology," 1885, pp. 413 and 414, advised against the routine combination of plastic operations on the female genital organs, and restricted the practice to particularly favorable or urgent cases. Since then, however, my experience has increased so much, and with it the rapidity with which I am able to operate safely, and my results with combined operations have been so excellent, that I have completely reversed my judgment of four years ago, and now do the combined operations whenever I possibly can. The objections above enumerated have eventually proved less serious in practice than they appeared in theory, at least those relating to the length of the operations and the late removal of the sutures. Whether a patient will bear a prolonged anæsthesia well, we can not, of course, foretell. That is a problem which can only be solved by trial. I myself confess that I usually feel more concerned about the possible danger from the anæsthetic than I do from the operation. Still, for two years I have used chloroform almost exclusively, even in operations lasting two hours and longer, and have seen but one case which gave me anxiety, and that was when not more than two drachms of chloroform had been used for dilatation and discission of the uterus.*

In giving ether I always use the Clover inhaler, which not only saves ether but also spares the patient and the etherizer the drenching with the anæsthetic which is unavoidable with the cone or Allison's inhaler. As regards the loss of blood, I have only once—in a very anæmic patient with lacerated cervix, retroversion, vesico-vaginal fistula, and lacerated perinæum—found it advisable to postpone the Alexander operation and perineorrhaphy to a later sitting, after sewing up the cervix and the fistula at one time.

By increased practice a greater dexterity and rapidity are gained, without a loss of accuracy or safety, and the time required for three or four of the above-mentioned operations is materially shortened, seldom exceeding an hour and a half. Of course all antiseptic precautions are carefully observed, and in consequence I have scarcely a failure of primary union to record in my plastic operations during the past three years.

The objection against removing the stitches in the cervix or vagina some weeks after those in the perinæum can easily be obviated by using catgut for all the internal sutures, as has been my custom for several years in all my proctocele operations, and in those lacerations of the cervix where the uterus is prolapsed and the sutures can easily be tied. To tie slippery catgut sutures high in the vagina is by no means easy, and the knot is apt to be loose and approximation of the wound imperfect. By using perforated shot or lead clamps, however, catgut and silk may both be employed on the cervix, the clamps escaping when the catgut has been dissolved or the silk has cut through. Nevertheless, I continue to use silver wire in trachelorrhaphy, because I am accustomed to it, have more practice with it than with silk or gut, and have found that if the ends are properly bent down the sutures can be left undisturbed for a month or longer, and can then be removed at the office without pain or trouble. In fact, I have of late adopted the plan with great satisfaction of allowing the patient to rise, walk about, and even go out, before removing the stitches from the cervix, letting her in some cases even come to my office for that purpose. I was induced to make this change from the usual and my former practice of removing them about the tenth day by two cases about three years ago in which the apparently healed wound broke open again as soon as the support of the sutures was removed.

Silkworm gut I have not employed on the cervix (although using it with preference now in perineorrhaphy), since it has to be removed like the wire and must be tied or shotted. In place of silk, however, I now use the silkworm gut for the abdominal wound in all my laparotomies with great satisfaction.

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* On the very day this paper was read, and after it was written, I met with a case—the very worst I have seen—of chloroform asphyxia. The operation was for a deep laceration of the perinæum; the method was Tait's; but two drachms of chloroform were given, and none had been administered for several minutes, when the patient's pulse and respiration suddenly ceased, she became livid, the jaws were firmly closed, and death seemed imminent. The head was at once depressed, the jaws were forced open, and artificial respiration was induced. After a few anxious minutes respiration was re-established, and the danger gradually disappeared. The operation was concluded without further use of chloroform. It seems to me that a spasmodic contraction of the glottis must have caused the cyanosis in this case. The heart was apparently sound. I abandoned ether chiefly because, two years ago, I had two cases of ovariotomy done under ether which did well until three weeks after the operation, when both patients were sitting up. Suddenly, without apparent cause, an acute pyelonephritis set in, which almost killed my patients, neither of whom had had symptoms of renal disease before. I thought that possibly the ether might in some mysterious way have been to blame, and decided to give chloroform a trial, and the results were so satisfactory that I continued its use. But I confess that a repetition of the accident mentioned in this foot-note would induce me to return to ether.

For about a year and a half I have performed Tait's method of perineorrhaphy in all cases where the perinæum only required repairing and no proctocele was present. One great advantage of this operation is its rapidity of execution, which recommends it particularly for combined operations. I recently performed such an operation for complete laceration in *eleven* minutes, the time being taken by one of the spectators. Perfect union was achieved.

My results have been excellent, first intention being secured in all cases but one, in which septic symptoms ensued, and, through my confinement by illness at home, the stitches were not removed so early as they should have been, and the patient died on the eleventh day. This accident was very much deplored, and should never have occurred or occur again.

Where there is a proctocele, I always employ Hegar's operation in preference to Tait's. A few times I have removed hæmorrhoids by the clamp and thermo-cautery before sewing up the torn perinæum. As I have always been careful to thoroughly stretch the sphincter ani before operating on the piles, I have had no complaint of rectal tenesmus and there has been no interference with the healing of the perinæum or of the cervix, if that also was operated upon.

Several times I have operated on a fistula in ano by the usual method, after sewing a lacerated cervix, and have also cut out such a fistula when present with a complete laceration of the perinæum, including the excised fistula in the perineal sutures.

During the last few years I have successfully operated in many cases for two or more of the above-mentioned lesions at one sitting. Thus, of twenty-six Alexander's operations for shortening the round ligaments, only in seven cases was that operation alone performed; in nineteen, the lacerated cervix or perinæum or prolapsed anterior or posterior vaginal wall or fistulous bladder was operated on at the same sitting.

Of more unusual operative combinations, I will but refer to two from my own practice:

1. Prolapsus uteri; lacerated cervix sewed with catgut; Alexander's on one side; ligament found, but broken; laparotomy; stitching of fundus uteri to abdominal wall; complete recovery; uterus in normal position.

2. Inverted uterus; ineffectual attempts at reparation by vagino-abdominal taxis; laparotomy; further ineffectual attempts with vaginal taxis and glove-stretchers through the abdominal incision; oophorectomy; elastic ligature to uterus in vagina; sloughing away of body of uterus; recovery.

Other operators have reported cases of attempted vaginal hysterectomy, and eventual removal of the uterus by laparotomy, as well as attempted removal of a uterine fibroid *per vaginam*, followed by its enucleation through an abdominal incision, all at the same sitting.

While I have made no effort to have this short paper complete, I trust I have succeeded in pointing out the advantages of combined operations in many cases where the saving of time, suffering, and expense is an object.

I need scarcely say, in conclusion, that I have not attempted to give all the details of the operations referred to in this paper, nor to lay any claim to priority for the combinations mentioned, since the details are well known to all gynæcologists, many of whom have, no doubt, practiced the very same combinations which I have here described.

20 WEST FORTY-FIFTH STREET, *March 28, 1889.*

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# THE THEORY AND PRACTICE OF HYPNOTISM.*

By ALBERT L. WAGNER, M. D.,
SOUTH BEND, IND.

THE subject we have for discussion at this time is no new one, but perhaps some new phases of it may be offered. I am aware that this is a subject in which the medical profession has never taken a general interest. In fact, until quite recently, what interest they did manifest was of a destructive character. Some few have evinced a pseudo-interest in it since the experiments of Charcot, Hammond, and some others.

Hypnotism, animal magnetism, mesmerism, or syggignoscism (Hammond) are all almost synonymous, signifying an abnormal state of the nervous system in which personal consciousness is lost, the senses perverted, and the mind wholly under the control of the operator. I prefer to use the term hypnotism, as it denotes the primary condition with which we meet in a subject under such influence. As the history of Mesmer is more or less generally known, I will say but a few words relative to the history of hypnotism. Prior to the birth of Mesmer some authors aver that this condition was known and practiced. It is true that von Helmont exhibited a knowledge of some such condition in his writings in the early part of the seventeenth century; also that one William Maxwell, a Scotchman, developed and announced by his writings a knowledge of some similar force about the year 1675—quite three quarters of a century before Mesmer. The Indians allege a much greater antiquity for, and a far more profound learning concerning, this power, as is shown in the writings of the Orientals.

Then came Mesmer, who advocated it in Paris about the year 1778, and professed to be able to cure all manner of disease with this wonderful influence. The Government ordered an investigation of Mesmer's methods, and, as the tale goes, our renowned Franklin was one of the committee. At any rate, an unfavorable report was made, with the exception of the separate report of one Jessieu, a physician of some prominence, who was convinced of there being some truth in the great mass of pretensions of Mesmer.

Since then attention has been paid to the subject by Sprengel, Reil, Authenrieth, Chenevix, Dr. Elliotson, Colquhoun, Baron Dupotet, the Rev. C. H. Townshend, Lafontaine, Lang, Sir William Hamilton, Braid, Dr. Simpson, Esdale, and, still later, by the Academy of Medicine of Paris, with Charcot in the lead; Mr. Myers and others of the Society for Psychical Research, London; and in this country Dr. Hammond, Dr. Beard, Dr. Rockwell, and many others. This list represents eminent men in the professions of medicine, science, religion, and the arts. Many of the governments of Europe offered prizes for the exposition of this new process, and enacted laws regulating it and restricting its practice to the medical profession. I predict that this will be done in this country, and the law will stand the same as all other laws relative to the practice of medicine and surgery.

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* Read before the Indiana State Medical Society, June 5, 1888.

We will consider in succession the method of producing this condition, its physiology, tests for its genuineness, and its application to medicine and surgery, with some few cases illustrative.

*Method of Production.*—In the writings of the different authors from the time of Mesmer to the present we see recommended the process of steadily fixing the gaze upon some bright object until sleep or unconsciousness supervene. We also see mentioned certain and divers passes which are said to produce sleep, but nothing definite is said about the particular efficacy of particular passes. This, I hold, is the pitfall into which most operators have fallen. Some authors say one, some two, some four, out of every ten can be hypnotized. Just here I wish to say that I have failed in only three cases in the hundred, and I am quite prepared to give satisfactory reasons for these failures. The first step, then, to become a successful hypnotist is to use passes instead of fixation of gaze. The passes are made as follows: After the subject is seated with his head leaning back against the wall, both feet squarely upon the floor, the palms of the hands upon the knees, the hand of the operator is held about a foot in front of and about a foot above the level of the eyes of the subject, with the injunction that the subject look at the hand, and while thus looking is directed to close the eyes. The operator then begins the passes by starting in the middle of the brow, touching the forehead lightly with the tips of the fingers, carrying them outward to the right and left, over the brows to the temples, some ten or twelve times, as in Fig. 1. While doing this the subject is directed to keep the eyes rolled back, and to breathe deeply and regularly.

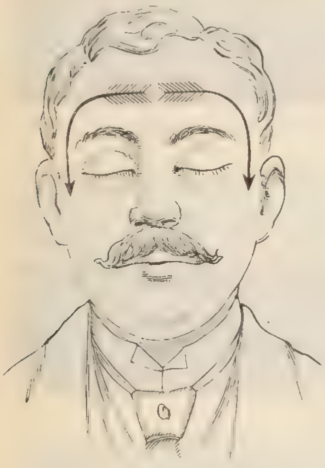
FIG. 1.

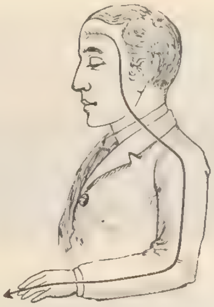
FIG. 2.

After making the passes as in Fig. 1, the tips of the fingers are passed down from the middle of the forehead over the cheeks, touching the shoulders, down the arm, touching the hand and, finally, the fingers. The touch must be light, that the subject may not be disturbed (Fig. 2). These passes to be repeated some ten or twelve times, in easy succession; then the passes as in Fig. 1 are repeated. Then the tips of the fingers are started higher up on the head, passing down back of the ear, over the angle of the jaw on to the neck, compressing somewhat the carotids and accelerating the flow in the jugulars (Fig. 3). This is repeated as above, reverting to a few (five or six) passes of Fig. 1. Then the same passes (Fig. 3) are continued, but the finger-tips pass down the arm and off the fingers, as in Fig. 2. This is repeated about ten or twelve times (Fig. 4).

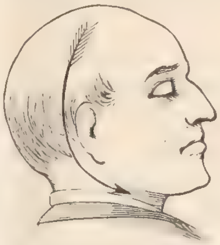
FIG. 3.

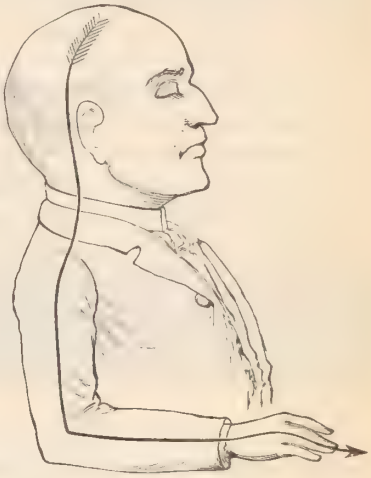
FIG. 4.

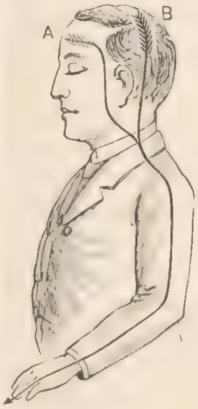

FIG. 5.

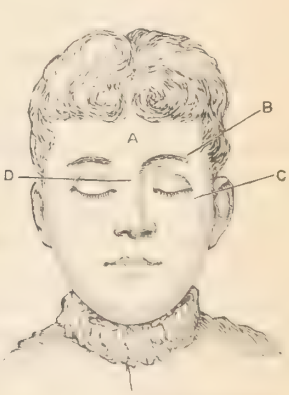

FIG. 6.

After going over the first, second, and third set of passes, but a less number of times, the thumbs (*a*) are started over the brows, down the temples, over the angle of the jaw on to the blood-vessels of the neck, while the finger-tips (*b*) pass down the back of the head over the occiput, around the neck, down the shoulders and arms, and, finally, touching the fingers (Fig. 5). This some dozen times; then as in Fig. 1 and Fig. 2; then repeat Fig. 5. After a respite of a minute or two, resort to Fig. 1 and Fig. 2 several times. Now, if the eyelid is quiet—*i. e.*, not quivering—and the respirations are deep and full, the thumb (*a*) of the operator is placed over and above the origin of the corrugators and passed down with a little pressure to a little below the junction of the nasal and frontal bones (*d*), while the finger-tips start at *b*, pass down over the temple a few inches, to *c*, as in Fig. 6. This is repeated five or six times, with lightly and gradually increasing pressure, till there is considerable pressure being made, when the operator says: "Your eyes are tight, you can not open them, *you can not*," etc., and at the same time pass the fingers of the left hand rapidly down over the brow and eyes a number of times close to but not touching the face. This is called fanning, and is useful in confusing the subject, and often keeps the eyes shut where without it they would be opened. In four or five cases out of ten the subject is now under control. It requires one, two, or three, sometimes more, séances to "get" the remainder of the ten.

To awaken the subject, make reverse passes over the face and brow. A half-dozen passes usually awaken. Or they are readily awakened by snapping the fingers near the ear, saying at the same time "You're all right," etc. Michael Foster says passing a stream of cold air into the face has the same effect. Sometimes, if the subject is not fully aroused, he will speak a few words and fall into a deep sleep again.

*Anatomy and Physiology of Hypnotism.*—In giving the anatomy and physiology of this condition I will consider in order:

1. Its action and manner of action upon the nerves.
2. Result of this action.
3. As shown by the sphygmograph.
4. Natural sleep incompatible with pain and (*a*) is a slight degree of anæsthesia, and (*b*) renders the whole system anæsthetic to the extent of the depth of the sleep; (*c*) the process of production of natural sleep compared with hypnotic sleep.

1. The passes bring about a condition which results in sleep, sleep bringing unconsciousness and anæsthesia proportionately. The condition which brings sleep must primarily act through the nervous system. Therefore the passes must act directly upon the nerves. The force generated or liberated in hypnotism is one which I do not understand, but I consider it to be, from its phenomena, electric, or perhaps magnetic. From the experiments of Augustus D. Waller, M. D., lecturer on physiology, St. Mary's Hospital Medical School, London ("British Medical Journal," Oct. 6, 1888), we can readily appreciate how it may be electric.

If a piece of vulcanite, ivory, bone, or glass is vigorously rubbed with the hand, the end toward which the hand passes will attract bits of wood, paper, and the like, while the opposite end does nothing of the kind; in fact, repels them. This is called static electricity. By making the passes over a human body there is brought about the same condition of things. The passes serve to demagnetize the brain, rendering it negative or impressionable. Where a patient seats himself for hypnotization and desires to avoid pain, he becomes passive or receptive. The operator is relatively positive. In electro-therapeutics, to gain an upward flowing current, the positive pole is placed on the periphery and the negative pole on the center, giving a large amount of absorptive irritation at the center. To produce a quiet and soothing effect, this is what we do not want and precisely what we do not get from downward passes from the head to the hands.*

The action of the force thus generated is to quiet the vaso-dilators or to stimulate the vaso-motors, as is seen in galvanizing the sympathetic. †

2. The result of this action is next seen upon the blood-vessels, or rather the arteries. The arteries, as shown by the sphygmograph are, contracted, giving a high arterial pressure. The carotids show a *marked* increase in arterial pressure, and by the ophthalmoscope the retinæ are seen to be very anæmic. The hands and feet are very cold, and also the brow and ears.

3. In nearly every subject operated on I have taken sphygmographic tracings and find that high arterial pressure is the rule. In Cases XXV, XXVI, and XXVII, the tracings of pregnant women ("British Medical Journal," Dec. 4, 1886), and considering the variation from normal in pregnancy, the difference is not marked. The following are tracings taken from subjects, and represent (Fig. 8) the natural carotid pulse. Fig. 9 is the tracing taken immediately after sleep, and Fig. 10 represents a tracing after eight or ten minutes of repeated downward passes from the head to the hands. In Fig. 9 we see the amplitude much less than in Fig. 8, the tidal wave less marked, and the dicrotic wave more marked, while the wavelets following are less marked, showing a greater resistance to the flow of blood. In Fig.

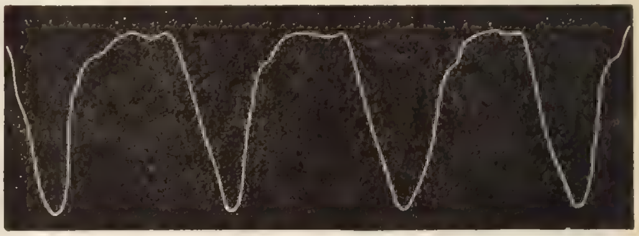
FIG. 7.—Respiratory tracing from Marey's pneumatograph.

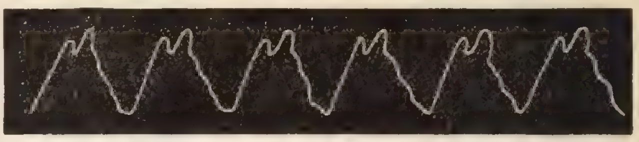
FIG. 8.

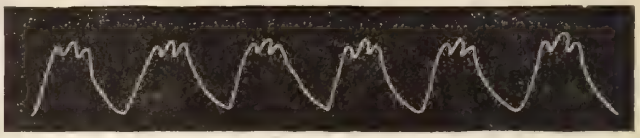
FIG. 9.

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* Since writing the foregoing I have produced sleep in a subject by a very mild galvanic current with the negative pole on the head and the positive pole in the hands. Strength of current, two milliampères or two and a half.

† I may be getting the effect for the cause here, as the passes themselves may be the cause of the anæsthesia, and the anæsthesia of the nerve may cause the action on the circulation, as in Section 2. Local anæsthesia is very easily produced and is as marked as that from cocaine.

10 we see Fig. 9 more intensified and exaggerated. The amplitude is two thirds of Fig. 8, and about nine tenths of Fig. 9. The dicrotic wave is less precipitous, the plateau following the first elevation slightly more marked, and the post-dicrotic wavelets hardly perceptible. Fig. 11 is typical of the radial pulse while asleep, and Fig. 12 is about the average of the normal pulse in the young and middle-aged. Now, in Fig. 13 we have the normal tracing of a lady aged forty-two. The tidal follows so soon after the first elevation in Fig. 13 as almost to leave the plateau of the calcified artery. Fig. 14 represents the pulse tracing brought about by downward passes from the shoulder to the hand some twenty times while the lady was awake. It represents a much higher arterial pressure, the amplitude being only about half of the normal. The plateau is quite marked, the extra tension totally obliterating the pre-dicrotic wave, and also the post-dicrotic. In Fig. 15 the amplitude is about two thirds of that in Fig. 13, the pre-dicrotic and post-dicrotic waves reappearing. Fig. 15 represents tracing from upward passes on left arm on a lady, a very sensitive subject, while she was asleep.

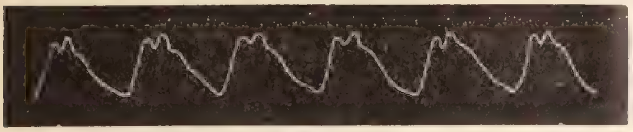

Fig. 10.

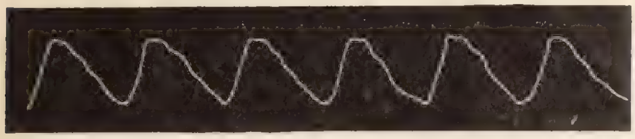

Fig. 11.

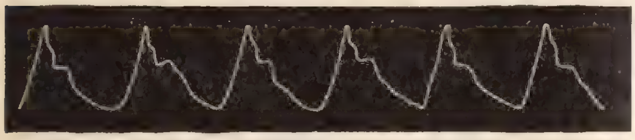

Fig. 12.

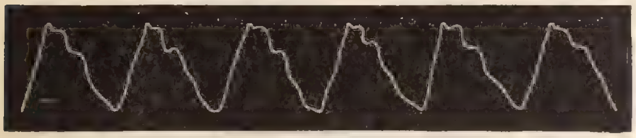

Fig. 13.

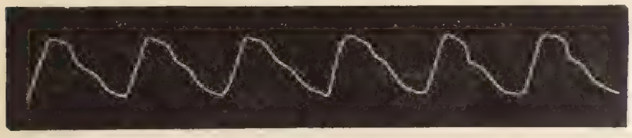

Fig. 14.

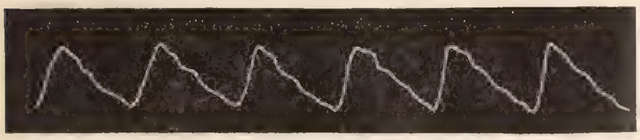

Fig. 15.

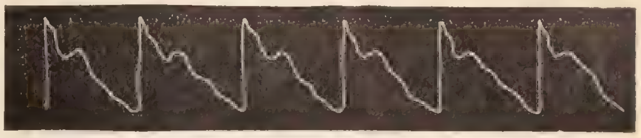

Fig. 16.

Figs. 16 and 17 represent tracings from the radial of a young man, aged twenty-five, who had never been hypnotized, and who at the time was perfectly normal in all respects except the circulation in the arm acted upon. Fig. 16 is the normal pulse, and Fig. 17 is the pulse-tracing after about thirty passes from the shoulder to the hand. The amplitude is about one half of that of normal and the line of elevation denotes a very high tension from the slanting to the right, showing slow dilatation of the vessel.

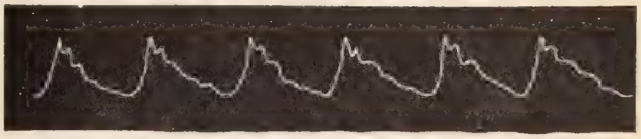

Fig. 17.

In four or five cases I have examined very minutely the blood-vessels of the retina and have found them plainly anæmic during hypnotic sleep. Dr. A. F. Shafer was kind enough to make an ophthalmoscopic examination for me, and he reported the retinæ as being much more anæmic than while awake.

4. All this goes to show, in my mind, that there is in hypnotic anæsthesia the same anæmia of the brain that is seen in chloroform anæsthesia or in natural sleep. This is again proved by the fact that those conditions which are seen in natural sleep are also seen in hypnotic sleep. They are the following: The eyes are rolled upward, the breathing is deep and regular, the circulation is quiet, the temperature (nocturnal) slightly below the diurnal, and the vessels of the brain and retinæ bloodless. Also that those conditions which favor natural sleep (except the recumbent posture, about which I do not know) favor equally the hypnotization of a subject, and are the following: Quiet, closing the eyelids and rolling the eyes upward, deep and regular breathing, and the voluntary exercise of the brain. When the subject is seated he is told to shut his eyes and roll them up, and he also involuntarily converges them. This is done in natural sleep for the purpose of both shutting out the light and stretching and contorting the arteria centralis retina and the ciliary arteries, cutting off their blood-supply. This renders the excitability of the retina much less, and no doubt contributes the initiatory impulse to the vaso-motors of the brain to diminish its blood-supply.

The subject is further told to breathe deeply and regularly as in anæsthetizing by chloroform, but for a different purpose. Deep and regular respiration promotes sleep by lengthening the inspiratory and shortening the expiratory effort. With the inspiration the flow of blood in the veins to the thorax is accelerated, and the flow through the arteries to the brain is retarded. This is noticed in the respirations of the child with open fontanelles or after cases of trephining. Fig. 7 gives us the tracing of Marey's pneumatograph, showing the inspiratory depression as being less abrupt than the expiratory elevation, leaving a plateau of very weak expiratory effort, and during this time the blood-pressure is gradually decreasing but still greater than in waking hours. The respirations during sleep are as 6 to 7 in waking, or thereabout. With the deep inspiration, which is longer than in the waking state, we have the maximum in favor of anæmia of the brain, and after the minimum of expiratory effort of short duration we have the medium of resistance to anæmia, which resistance is almost *nil*, represented by the plateau of the tracing. Then, again, if Sommer's theory of storing oxygen is correct (and many physiologists look on it with great favor), we can appreciate how the deep and regular respirations, by the complete change of the air in the lungs, allows the reserve and residual air to remain the purer, that the interchange of gases may be the more rapid and effective. We know by personal experience that when we are sleepy we yawn and sigh, and as we surrender to sleep we cease yawning and sighing, and deep breathing is soon followed by sleep. In making the passes over the neck, allowing the fingers to press the blood-vessels is surely an efficient measure in rendering the brain bloodless.

The circulation of thoroughly hypnotized patients is very quiet, the pulsation of the heart being reduced from three to ten per minute. The sublingual temperature in some twenty-three cases showed a decrease from normal of about one fifth of a degree after thirty or forty minutes of hypnotic sleep.

5. I am aware that there is another element said to enter into chloroform anæsthesia besides anæmia of the brain. If chloroform or ether harden for the time being the brain and nerve-fibers and cells, thus prohibiting the transmission of impressions by them, it does not prove that simple anæmia would not be sufficient to intercept any efferent or afferent nerve-wave. It is the office of sensory nerve-fibers to carry impressions to the brain, and, although it is not capable of demonstration, I believe the action of the hypnotic passes down from the head, not only acts on the nerves controlling the circulation of the blood, rendering the brain bloodless, but that it reverses or stops in some manner the nerve-current itself from the periphery to the center. In local anæsthesia by hypnotism the local circulation is interfered with. The phenomenon which Dr. Hammond thinks mysterious ("New York Medical Journal," July 30, 1887) is due to the anatomical arrangement of the circulation of the brain. This paralysis of the will of hypnotized subjects where they are unconscious, but will keep up a conversation and perform any act the operator may suggest, is due to the fact that in making the passes, as in Figs. 1, 2, 3, and 4, we first control the circulation of the carotids and their branches supplying the cerebrum, shutting off all effort of the will, leaving it under the control of the operator; but, as the cerebellum is supplied by the vertebral arteries, the vegetative functions are not interfered with till the subject is fully under hypnotic influence from passes made down the occiput and spine, when we see very deep sleep, the pulse slowed, and the temperature slightly lowered. Also the subject is in too deep sleep to hear and obey. In the production of the state Hammond terms syggignoscism, the subject gazed at a bright disc held before the eyes. This finally produces fatigue of the retina, the vessels begin to contract, and the eye becomes anæmic. This impulse is then carried to the cerebral vessels reflexly, while the cerebellar vessels are not at all influenced. In very rebellious subjects, where all the passes have to be resorted to repeatedly to produce sleep, I have sometimes found that it was impossible to produce the state of waking somnambulism, owing to producing as profound an impression upon the basilar vessels as upon the cerebral, putting the subject into deep sleep by very few passes or even by fixation of the gaze. Again, to show that the continued gaze paralyzes the retina, I will cite the condition and position of the eyes of a subject "fascinated" after having become a sensitive. By steadily gazing at the subject for a few minutes he becomes "fascinated," or syggignoscized, or in the waking-somnambulic state. Just as he goes into this state he throws the body forward on the thighs (Fig. 18), the neck stretched forward, and the head thrown slightly backward, and in this stooping position he starts for the operator. As he approaches the operator it will be seen that the eyes are converged and rolled upward, and, notwithstanding the possibility of his being taller than the operator, his eyes will be on a level with the operator's chin till he approaches quite near. The subject will follow the operator any place while in this condition, and, if the operator turn around, the subject will immediately run around him, seemingly with the one object in life—to gaze or stare into the eyes of the operator.

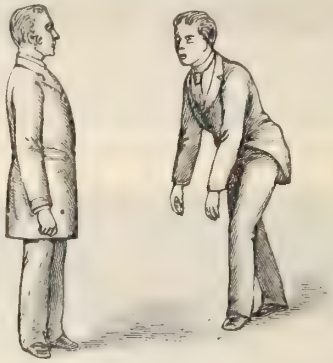

FIG. 18.—(Approximately.)

The conditions of the sleeper have been variously divided by the different writers. The following have been the changes I have observed:

1. The fingers and hands become numb and tingle. (First evidence of gaining control of the subject.)
2. The subject feels sleepy.
3. The eyelid and ball become more quiet, and the respiration, unconsciously, regular.
4. Paralysis of the eye muscles.
5. Waking somnambulism.
6. Deep sleep.

7. Fascination.
8. Suggestion.

Further than this I have not gone, and do not think there can be any interest to the physician or surgeon to go into the subject of thought transference or clairvoyance. I believe the division of the conditions as given by Kluge is about as follows:

1. No perceptible change. (?)
2. Half sleep; no change except in the eye, which seems to draw away from the will.
3. Magnetic sleep, all the senses having drawn away from the will.
4. Perfect crisis or somnambulism. The patient is said to awake within himself. Is not asleep or awake. (Here my appreciation of the classification ceases.)
5. Lucid vision or clairvoyancy. (In which the subject *is said* to see his own mental and bodily state and that of others, to predict his diseases to come, and to suggest the remedies appropriate. This, no doubt, would be of great use to us *sometimes*.)
6. Universal lucidity. This is No. 5 greatly magnified, and reaches to infinity. It is said to be of *very* rare occurrence.

Dove's classification is the following:

1. Contemplative abstraction.
2. Ordinary vigil.
3. Ordinary reverie.
4. Ordinary dreaming.
5. Ordinary sleep.
6. Lucid dreaming.
7. Lucid reverie.
8. Lucid vigil.
9. Devotional ecstasy.

Of course it is almost impossible to classify the different states, as one runs almost imperceptibly into another. The classifications of Kluge and Dove relate to conditions brought about by fixed staring at an object.

There is no doubt that there is a psychical condition to be considered. The operator must be positive in all he does, so as to impress the subject with the belief that he is in the hands of his master. However, this makes but little difference, provided the operator is granted a number of sittings. If at the first sitting I am able to make the fingers tingle and produce a sensation of drowsiness, I am sure of sending the subject off into sleep in one or two more trials. And, again, when the subject is told he can not open his eyes; it must be said as if the operator meant it. If one should say: "There, now, I don't believe you can open your eyes, can you?" they would fly open immediately, provided the subject had never been put to sleep before. Positiveness bears the same relation to hypnotizing a subject as it does to raising a patient from a bed of sickness. That the element of will has but little to do in hypnotism is shown in sending animals to sleep. Dr. Hendricks, of Ann Arbor, I understand, has done this, and Dr. Wilson, Physician to the Middlesex Hospital, London, performed with success upon cats, dogs, ducks, fish, horses, lions, elephants, etc. I have experimented with only two dogs, which in about thirty minutes, on the second and third trials, slept soundly and did not notice having a needle thrust through the ear or being raised bodily off the floor by the tail.

The description the subjects give of their sensations is that they first feel their fingers tingle and their hands and feet get cold; then they become sleepy; and when told that they can not open their eyes; they say they hear and know all but can not open them; then comes deep sleep, unless we sometimes wish to extract a tooth or do some other such work, when the subject is not entirely unconscious. Then they know and do as bidden, but suffer no pain. They say if the skin is cut it feels as if something were being drawn gently over it, and they feel the forceps applied to the tooth, but that pulling the tooth feels like pulling a peg out of a hole.

Are there any tests that will prove the subject to be a real subject or an impostor? We have all very likely heard of the Hindoo sage who could stop his respiration and circulation for an indefinite time by the force of his will, but we have never seen any one with this power. Neither have we seen any one who could so alter his circulation as to produce anæmia of the retina or produce high arterial tension in the radial or the carotid at will. In the discussion of hypnotism by Beard and Hammond, before the Medico-legal Society of New York, they said it was impossible to prove that one in this condition was not shamming. Now, it occurs to me that the difference shown by the sphygmograph would be sufficient to convince any judge of the truth or falsity of the assertion. Added to this we would have the ophthalmoscope, the anæsthesia, and the pulse as altered by local passes on a single arm.

The following cases will perhaps represent the utility of hypnotism to some extent:

Case I.—R. L., a subject of mine for experiment upon while in London, before some of the students there, came to me in about two weeks after the first séance with a large boil or carbuncle on the back of his neck and a tumor of the lower eyelid. The carbuncle was lanced after putting him to sleep; no pain felt. The tumor of the eyelid was about as large as a pea, or a little larger. It was an accumulation in the glands of the lid, and I cut down on it after everting the lid. This was done with local passes around the eye, the subject awake.

Case II.—J. R. came with R. L. (Case I) with double pterygium. I tried him the third time before I made him sensitive to local passes. While doing the operation I used no eye speculum and did nothing to steady the globe, fixing the lids wide open and the eye looking directly into mine. The lids or globe did not quiver while snipping the membrane off nor while taking the stitches. I noticed that there was but little soreness or redness afterward.

Cases III, IV, and V.—Extraction of teeth while in London. Case III, one molar. Case IV, three molars. Case V, two molars and one bicuspid. From the fact that the subject has to be tried three or four times sometimes before sleep comes, hypnotism is not very useful to the dentist, who has to pull the tooth immediately or often not at all.

Case VI.—J. B.; circumcision; local anæsthesia by rubbing the skin from the prepuce to the pubes, groins, perinæum. No soreness of any consequence followed.

Case VIII.—Miss P.; dilatation of the cervix for dysmenorrhœa; used Peaslee's dilators. The operation was fifteen or twenty minutes in duration, and was done in deep sleep. The amount of soreness following was of no consequence. The cause of this lack of soreness and inflammation, which is pretty generally noticeable, is beyond my ken. The patient, if he ever had a tooth pulled before, usually says: "Why, it was not one bit sore afterward." And there is always less blood lost than under chloroform or without an anæsthetic.

CASE IX.—Mrs. A.; dyspareunia. She consulted me on account of the terrible pain caused by sexual intercourse, and I found that the parts were very hyperæsthetic—so much so that a digital examination caused intense pain, which would come on like child-birth pains, and when intercourse was indulged the pain would last for four or five hours. As it happened, she was a very sensitive subject, and went to sleep nicely on the first trial, thus allowing a vaginal examination in the hypnotic state. I dilated the vagina with a speculum, and the next week dilated the os with Truax's dilator. She complained of no soreness afterward.

CASE X.—A lady came into the office of Dr. J. B. Greene, of Mishawaka, Ind., for the extraction of a tooth. I had just been telling him of the above-mentioned cases, and I believe that the doctor, thinking he would have some sport at my expense, invited me to hypnotize her. Fortunately, she proved to be a very tractable subject, and her eyes refused to open after half a dozen passes. She told Dr. G. that when she felt herself "going" she was frightened almost to death, and tried to get up and to scream. Also that when I told her to open her mouth she thought she did not, and when she felt the forceps on her tooth she thought she pulled Dr. Greene's hands away. She felt the tooth come out, but it felt "like pulling a wooden plug out of a hole."

CASE XI was one of my unsuccessful attempts to hypnotize. It was for a dentist of this city, and the subject was fifty-five or sixty years of age. I had but a few minutes in which to operate, and I only succeeded in making her fingers tingle, when I had to give up the case. Old people are much harder to control than young ones, for the reason that their arteries are hardened and do not readily contract.

CASE XII.—Epithelioma of face. Mr. B., aged fifty or thereabout, suffered very much pain from the cancer. Had resort to hypnotism to relieve the pain. For a week I made the face locally anæsthetic night and morning. Then for a fortnight only once a day, the anæsthesia lasting sixteen, eighteen, up to twenty-four hours progressively.

CASE XIII.—T. S., aged twenty-two, biliary calculus. Finding him suffering with gall-stone, I injected morphine, etc. In about a week T. S. came to my office, and I told him what relief I could give him by using hypnotism, as he was afraid of becoming addicted to the morphine habit. The first trial he went off beautifully. In about nine weeks I was again summoned and found another stone passing. Put him to sleep in a few seconds. I let him sleep about forty minutes, and when he awoke the pain returned in about five minutes. After this I put him in the waking-somnambulic state and told him that he had no pain, and for three hours he lay on his bed and conversed with his friends, and when he awoke he knew nothing of having talked, and supposed he had been asleep naturally.

CASE XIV.—Dog Tim. I attempted to hypnotize him, and at first he thought I was trying to play with him, but soon he began acting queerly, trying to get away from me. Then he would yawn frequently, as dogs do, his eyes would close partly and then open, and then he would scratch his ears with his feet and nibble at his paws. The next day I put him fast to sleep in about thirty minutes. I could run a needle through his ear or nose, and he would take no notice of it in the least. I rolled him over and lifted him by the tail and ears, but he did not awake.

CASE XV is similar, the dog waking naturally in about two hours and a half. I succeeded in making him drink water and eat a piece of bread while still asleep. The dog did not notice either capsicum in the mouth or turpentine in the rectum, therefore I thought he was not shamming.

CASE XVI.—M. S., girl, aged twelve, was brought to me suffering with incontinence of urine. She would wet the bed every night, and the parent said that everything had been done, and, from the physicians by whom she had been treated, I thought it likely that she had had all done for her that is usually done in such cases. After making a thorough examination I could find no apparent cause, and told the mother that the only thing I could suggest was hypnotism. I placed the child's hand in that of the mother, to quiet any fears she might have, and began the passes. She soon slept, and then I produced the condition of waking somnambulism, and while she was in it I talked to her about wetting the bed. I told her that for a week she could not and should not wet the bed. I awakened her and told her the same thing, and directed her mother to return in a week. She did not wet the bed that week, and I again went over the same grounds, but told her that she should never *dare* to do so again, and she never has. This is what is called suggestion, and the lady from whom I took the tracing of the carotids was so sensitive that I could keep her awake by telling her that she would not go to sleep that night till a certain hour. Here I will take occasion to say that these hypnotic passes are the most reliable measures one can adopt for the different forms of headache and neuralgia.

CASES XVII and XVIII were those of young men who desired to see whether I could produce sleep in them. They were secured in a short time, and, as I felt like trying some experiments, I produced in them the condition known as catalepsy, in which all the voluntary muscles of the body are in tonic spasm and the subject will remain in any position the operator puts him, or will sustain prodigious weights on his body while the heels are on one chair and the head on another. To produce this condition the subject is stood upright, or is stretched at full length upon the floor. The passes are made the whole length of the body, from the head to the heels. In Case XVII I fixed the muscles of respiration for about forty seconds, and he made no effort to breathe. The heart can be slowed and, I believe, could be stopped outright. The law may have this to deal with some time.

CASE XIX.—Mrs. J., aged twenty-three, pregnant. She and her husband applied to me for treatment, as Mrs. J. expected to be confined in a week or ten days, and she desired to be hypnotized to avoid the pain of childbirth. She had never been sick except with the tertian ague, and at the time of calling on me was in most enviably good health. On the first trial she only experienced a sleepy sensation at the end of six or seven minutes' operating. Next trial she dropped off to sleep in about three minutes. On waking her I produced local anæsthesia of the ears, fingers, and face, and local paralysis of the arms or hands at pleasure. The next sitting I produced fascination, somnambulism, and the condition some call the electro-biological state, in which, by simply looking in the eye and saying to her that her name was Jim, she said Yes, her name *was* Jim. The circulation was easily controlled. The sphygmograph gave the following tracings on the radial. Fig. 19 gives her normal pulse in the right arm, while Fig. 20 gives the tracings of the left after downward passes from shoulder to the hand. Fig. 21 gives the tracings of the right radial after upward passes from hand to shoulder. In Fig. 19 we see a condition of increased arterial pressure, but not nearly that in Fig. 20. According to J. W. Ballantyne, M. B., Assistant Professor of Midwifery, Edinburgh ("Brit. Med. Jour.," Dec. 4, 1886), we always find the tension higher in the pregnant, and after confinement the pulse gradually drops to normal. Fig. 21 shows a decreased tension. Fig. 22 shows tracing three months after confinement.

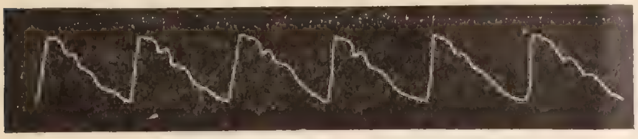

Fig. 19.

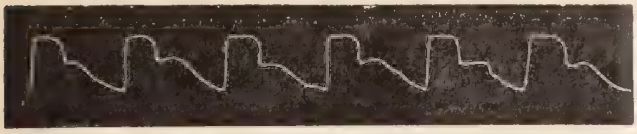

Fig. 20.

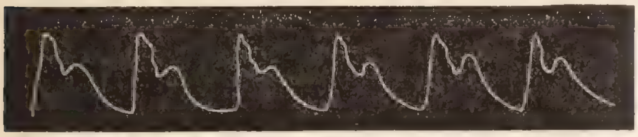

Fig. 21.

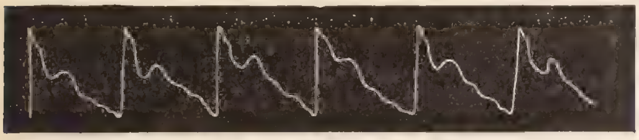

Fig. 22.

*Confinement.*—Labor-pains began at 11 A. M. Arrived at 12 M. and found the os dilated to the size of a quarter-dollar. Pains steadily increasing in severity, and at 2 P. M. I produced hypnotic sleep for forty minutes. While asleep the pains came stronger, the abdominal muscles contracting well, and the patient helping herself as much as when awake. While asleep there were some fifteen or sixteen strong pains, the pulse was regular and strong, and the respiration normal. On being awakened, the pains came less frequently and not so severe, about the same as before sleep, for an hour. Then I produced sleep again during a severe pain. Asleep, the pains became more severe and expulsive. In the severe pains the patient moaned, clinched her hands, and strained as if awake, but when awakened she said she had felt no pain. The vertex was now at the vulva and the patient refused to be put to sleep again, owing to the fault found by the "old women" who were there and who did not believe in "these new-fangled notions." The child was born the third pain after awaking the sleeper. The last pains before she was aroused would almost awaken her; the eyes would open, but presented the vacant stare of waking somnambulism, and would close by making passes down over them. She would stop moaning on being told that she had no pain. Three or four pains were all she had that seemed to partly arouse her. From the fact that the uterus was somewhat tardy in contracting after awaking, I was afraid to attempt to remove the placenta while she slept lest post-partum hæmorrhage should occur. Accordingly, in the two cases following, I left the expulsion of the placenta to the good offices of nature.

Cases XX and XXI were that of a primipara and that of a multipara. In these cases I noticed the same phenomena as in the above. The abdominal muscles contracted and the patients helped themselves as much as if they had been awake. I awakened one once and the other twice before the birth. As soon as the child was born I awakened the sleeper, fearing to remove the placenta, as the whole procedure was somewhat of an innovation. Really I do not think that the uterus would relax, but I was content to wait for older practitioners to enter the same field and give us younger men some precedent to cite in view of accidents.

These cases will perhaps illustrate in a feeble way some of the uses to which hypnotism may be put. In operating upon women I always have a third person present for my own protection, and I have not used it in as many cases as I should if there were more operators using it and there were not the prejudice against it caused by the traveling mesmerizers. This traveling, I think, should be stopped.

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## SOME REMARKS ON THE OPERATIVE TREATMENT OF HÆMORRHOIDS.

By JOSEPH B. BROWN, M. D.,
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An article in your issue of February 23d, entitled "Operative Treatment of Hæmorrhoids," by Mr. Walter Whitehead, F. R. C. S., etc., is evidently intended by that gentleman as a crushing reply to a most temperate and judicial comparison by Dr. Kelsey of Mr. Whitehead's method of treatment by excision with the other operations now in use by surgeons.

But it is in no sense of the word a reply to Dr. Kelsey, because it most completely avoids meeting the issues made by him, and, after a most "illogical" attempt to convict him of inconsistency and "reckless disregard of fact," degenerates finally simply into a tirade of illiberal and unprovoked personalities. On this account it is highly probable that Dr. Kelsey will not notice it at all, although the manner in which Mr. Whitehead ignores the issues made by him and perverts the authorities he quotes in support of his assertions certainly seems to demand attention.

The points made by Dr. Kelsey are:

1st. That Mr. Whitehead alleges superiority for his method in the operative treatment of hæmorrhoids by excision, because the ligature and the clamp and cautery "by no means produce a radical cure."

This latter statement Dr. Kelsey asserts is not warranted by fact or experience.

2d. That Mr. Whitehead's operation is "a naturally difficult, tedious, and bloody operation."

Dr. Kelsey also asserts that the clamp-and-cautery operation will radically cure, and will cause less pain, less vesical disturbance, and less danger of surgical accident than any other known method.

To meet the first point, Mr. Whitehead makes exhaustive quotations from Mr. Henry Smith, specifying page and gleaning various and sundry mishaps from the ligature—*e. g.*, "death," "prolonged convalescence," "painful suffering, necessitating perhaps some other operation," "secondary hæmorrhage and sloughing," "abscess," "intense pain and constitutional disturbance," and "delirium," but fails to find *recurrence* as following the application of the ligature—yet, in summing up in one paragraph all these accidents enumerated by Mr. Smith, he inserts "recurrence" among them!

Mr. Whitehead then most logically quotes largely from Dr. Kelsey to show that the latter quite agrees with himself in condemnation of the ligature in all respects except the point at issue—"recurrence."

Mr. Allingham's opinion of the clamp and cautery is next given by Mr. Whitehead, but he finds no charge of "recurrence" there either. Next he finds, on further search of Mr. Smith's work—page 115—"a case of a lady who had undergone one or two operations with the ligature with only partial success!" Then he quotes Dr. Kelsey and Mr. Allingham both to testify that in certain complications "small ones [piles] may be overlooked and not tied, which are likely to grow, and a return of the piles may be confidently anticipated in a few months." Is this Mr. Whitehead's idea of a "recurrence"?

So much for "hypercriticism" and "reckless disregard of facts"—polite terms which Mr. Whitehead permits himself to use toward Dr. Kelsey.

Dr. Kelsey's second specification—that "excision is a naturally difficult, tedious, and bloody operation"—Mr. Whitehead disposes of most summarily by saying "many young surgeons, early in their professional careers, have assured me that they found no difficulties in the operation." As to its being "tedious," Mr. Whitehead remarks: "All I have to say is that it can be completed in an average case in ten minutes."

Does Mr. Whitehead "expect us to accept his assurance" that he, or any other surgeon, can "remove the whole pile-area"—which he distinctly states [previous column] "is one of the conditions of success in his operation"—in ten minutes? This certainly was not the experience of so skillful a surgeon as Dr. Weir in the cases reported by him, though he made manifest improvements in the method of operating recommended by Mr. Whitehead.

In defending his operation from the charge of being "bloody" Mr. Whitehead quite loses his temper, and descends to personalities and egotistic sneers.

It is difficult to conceive how he can proceed to say that Dr. Kelsey "reluctantly makes the concession that he agrees with Weir that after excision the recovery is quicker, and the reaction, as shown by pain and difficulty in urination, is less than that following the ligature." What Kelsey really does say is this: "Weir compares these results very favorably with those of the ligature, and I think with perfect justice"; but why does Mr. Whitehead stop short here and ignore the words of Dr. Kelsey which immediately follow —"but with regard to the clamp-and-cautery method the same certainly is not true"?

Here Mr. Whitehead abandons all pretense of argument, and berates Dr. Kelsey with abusive epithets, which only demonstrate that he can not appreciate the candor and sincerity of one who, in his investigation of a method which for a time promised so much for suffering humanity, had published two hundred consecutive cases of success with carbolic-acid injection, yet, when further experience convinced him that his hopes were unfounded, frankly said so.

Such conscientiousness apparently so confounds Mr. Whitehead that he calls it at first "vacillation," and finally "audacity."

Now permit me to say a few words on what I know of the clamp-and-cautery operation as practiced by Dr. Kelsey. For more than twenty years I suffered from hæmorrhoids in such a way that at times life became a burden which I almost wished to lay off. But circumstances debarred me from the opportunity of availing myself of the chances of relief from an operation, and I confess that the fearful agony which I often saw following the use of the ligature made me still longer delay, until when carbolic injection began to attract the attention of the profession I put myself under the hands of a careful and judicious surgeon, and for two years faithfully followed that treatment, not continuously, of course, but giving it a fair and persistent trial. At first I was much relieved, but it failed at last, and my case became so serious that I consulted Dr. Kelsey. I have no intention of reporting my case here. Suffice it to say that Dr. Kelsey removed successively six very large hæmorrhoidal tumors with the clamp and cautery—one of them so large that it could not be embraced in one grasp of the clamp, but required a second cut. Dr. Kelsey pronounced it the largest internal hæmorrhoid he had then seen. Expressing a doubt of my ability to bear ether, Dr. Kelsey permitted me to venture the operation under local anæsthesia by cocaine, having his assistants ready to put me under the influence of ether should the pain prove greater than I could bear.

Six minims of a fifteen-per-cent. solution of cocaine were therefore injected at the base of each tumor, and the operation was commenced and finished in a few minutes, I being fully conscious of every touch of the instruments, and of each step of the operation, but feeling no pain that I could not easily bear.

The operation was finished at about 3 P. M. At eight o'clock the same evening, as I was suffering chiefly from bladder tenesmus, Dr. Kelsey directed me to get up and go to the water-closet to try to relieve myself by an effort to urinate. I did so, and after considerable waiting and straining succeeded, and twice before morning I did the same, walking across the bedroom to the bath-room and back to bed after relieving my bladder.

In forty hours I had my first passage from the bowels, suffering far less pain than at any previous defecation for weeks before the removal of the tumors. From that day I was walking about the room as I pleased, and in ten days from the operation was able to return, without suffering, to my home from New York city, which involved a twelve hours' ride by rail.

These results, which are the average from the clamp-and-cautery method by Dr. Kelsey, I can not find approached by either those of the ligature, excision, or even the alluring but delusive promise of carbolic-acid injection, either in rapidity of performance, comparative immunity from after-pain, or vesical disturbance, rapidity of recovery, perfect restoration of the functions of rectum and anus, and the whole crowned by almost absolute impossibility of recurrence.

## A SANITARIUM OF SOUTHERN CALIFORNIA

### IN THE VICINITY OF LOS ANGELES.

By WILLIAM H. DUKEMAN, M. D.,
LOS ANGELES, CAL.

THE questions naturally arise in every one's mind, How can I gain good health? or, What shall I do to keep well?

I will answer these questions in this manner: Live where the death-rate is lowest; live where the sun shines three hundred and forty days in the year; live where the climate is mild and warm and comfortable; live where epidemics of contagious diseases are unknown; live on dry soil; and live where there is pure air and pure water.

Among the principal causes of disease are bad climate, impure air, impure water, confined and sedentary occupation, intemperance of various kinds, living in ill-ventilated and badly located houses, worry, excitement, etc.

In most cases two or more of the various causes are combined in producing a disease, and the main cause of disease is not knowing how to live or where to live. And all diseases, I may say, except certain hereditary diseases, are brought upon one's self by carelessness or ignorance of hygienic attention.

A man's health depends very much upon the location of his dwelling and the character and condition of the surroundings. A dry soil stands first, and if dry it should be porous. Nearly one third of the volume of some dry soils consists of air, and the absence of organic matter in this soil with its free porosity makes it a perfect location for dwellings. In this section of southern California certain locations are of such composition. And for a perfect location for a sanitarium we must also inquire into the purity of the air and water as well as into the state of the temperature and humidity of the climate. Here the air in every sense of the word is pure and free from obnoxious and poisonous gases such as arise from decomposed organic matter. The air has its maximum proportions of oxygen and ozone conducive to health.

We have two prevailing winds. In the morning the wind comes from the mountains, which is fresh, pure, and exhilarating; and in the afternoon a refreshing breeze comes from the ocean. Here there is no stagnant water or damp soil for the development of malaria.

During the wet season we have only from twenty to thirty rainy days. Our rains are heavy and flushing, so that all refuse matter that may have collected on the surface of the ground is carried to the ocean. There is a gradual slope of the land to the ocean of three hundred feet in the fifteen miles. We are now having a sewer built to the ocean.

I have lived here two years, and during the rainy season of 1887 and 1888 we had in all thirty-two different days or nights that rain fell, on eighteen of which rain fell heavily, while the others were what one would term rainy or showery; perhaps part of the day the sun would shine. The heaviest rain-fall usually occurs at night. For the season of 1888 and 1889 we have had only twenty-seven different days or nights during which rain fell, on only eleven of which rain fell heavily, while on the others the rain fell at night or the days were showery. This constitutes our rainy season. Occasionally we have a light shower during the summer. Last summer we had several very light showers.

Our water supply is derived from the mountains and from artesian wells, and is pure and fresh and free from contamination of sewage or decomposed vegetable or animal matter. Mineral springs of good medicinal properties abound in various sections.

Our climate is comfortable and warm the year round, as signal-service reports will show, with an almost even daily temperature. The nights are always cool, during which one gets perfect rest from good, sound sleep, from which he awakes refreshed. It is at all times comfortable to sleep under blankets. The mean daily temperature for the warmer six months averages about 67° F. The highest temperature for these months is from 83° to 98°, which is always during midday. The mean daily temperature for the colder six months averages about 55°. The highest temperature for these months is from 70° to 85°. The temperature at times during the night will fall to 40°, and a very few times as low as 32° or 30°. During the summer at the highest temperature it is always cool and comfortable in the shade, and wholly unlike a hot summer's day in New York. Here arises every day, about 2 P. M., an ocean breeze, cool and refreshing. The laborer does not complain of fatigue from his work. The horse may be driven twice as far as in the East. While on a summer's day the sun is hot, that depression from the sun's rays so universal in the East is not felt along the Pacific coast in this section. We can account for this only as owing to our prevailing winds and pure, exhilarating atmosphere, with a low relative humidity during the hotter part of the day.

The relative humidity of the atmosphere ranks next to the temperature in the estimation of a climate for health. We have here a moderately dry climate. The daily relative humidity for the warmer six months at 7 A. M. is from 70 to 90 per cent., while the temperature at this time of day averages from 60° to 70° F. During the hottest part of the day—which is from 10 A. M. to 1 P. M., when the temperature may be from 75° to 95°—the relative humidity will be as low as 51 to 69 per cent. In the evening it always grows cool again from the ocean breeze, and then the humidity will be almost as high as in the morning. What better could we have than this, for it is about the same daily with very little variation? For the colder six months the relation of the temperature and humidity is about the same, while in some sections it is excessively dry. The reader is referred to signal-service reports for further details of the temperature and humidity. Taking the average temperature and relative humidity, this climate is admirably adapted to consumptives, and alike to many nervous affections as well as to kidney diseases.

In this climate yellow fever is unknown. Epidemics in general of the more common zymotic diseases so prevalent in the East are comparatively rare in this section. Hydrophobia is unknown. To show that the heat is not oppressive, sunstrokes are unknown.

While at certain times in the year we have fogs in Los Angeles, eastward toward the mountains, at a distance of ten miles, fogs do not occur. Along the foot hills, within a few miles of this city, is one of the most glorious plaçes for a home. Here everything favors health. The consumptive lives in ease, and, if he comes here in due time, he is in almost perfect immunity from further progress of the disease; and, being only a few miles from the city, he can conjoin country or mountain life with city life by a pleasant drive daily to the city. Seventeen miles farther westward will take him to the ocean, where, if it is acceptable to his constitution and health, he can bathe in the surf of the Pacific. An ocean voyage of thirty miles lands him on Catalina Island, which is becoming a popular resort for health and pleasure seekers. Here he can enjoy swimming in the bay and fishing, which is most plentiful, and also rowing. If he is strong enough, he can enjoy climbing over the hills of the island, and the sport of shooting wild goat and deer. If the ocean breeze is not conducive to his health, some of the various towns inland from the ocean along the foot hills, within a few miles from Los Angeles, will offer many inducements. At the beautiful city of Pasadena, of twelve thousand inhabitants, nine miles from Los Angeles, where the well-known Raymond Hotel is located, he can have all the advantages and pleasures of country and city life. If he desires to be more secluded, the town of Sierra Madra, several miles further toward the mountains of the Sierra Madre, is a most delightful location. Situated at the foot of the mountains, dry and warm, free from fog, where grow semi-tropical fruits and plants and flowers of all descriptions, at an elevation of about 1,200 feet, a home here is a most delightful one. The air is pure, dry, and exhilarating. From this spot the view is one of grandeur. The great productive San Gabriel valley below is covered with immense vineyards and orange groves and barley fields. The beautiful towns of Pomona, Monrovia, Ontario, Riverside, etc., are studded in every direction. Here also grow the palm and banana, the date and the fig, the peach and the apricot, and the olive. Here are wild flowers of various descriptions, among which perhaps the most beautiful is the golden poppy.

Casting the eye further southward, the Pacific is plainly in view, and the ship-masts in the harbor of San Pedro mark the port.

Turning to the northeast, the eye is cast toward Wilson Peak and the snow-capped Mount Baldy, forty miles beyond. Wilson Peak is an elevation of about 6,000 feet. There is a graded trail leading up to the top of this peak, winding round and round along the mountain side, with the deep gulches below, which is a most charming trip. Here on this peak is to be located the great telescope, with a lens six inches larger than that of the great Lick telescope. It is about ten miles by way of the trail to the top of the peak, and the journey is made very pleasantly on the back of a "burro" by those who can not endure the walk.

Than here in this section of country of a most glorious climate—where it never snows, where the sun shines three hundred and forty days in the year, where the atmosphere is pure, dry, exhilarating, and aseptic, where, within a radius of forty miles, we can combine city and country life for our patients, as well as sea and mountain life, and where health meets you in every channel of life—I ask, where on the face of the globe is there a more perfect sanitarium?

# BILATERAL BLEPHAROSPASM WITH DIVERGENT STRABISMUS,

## CURED AFTER DIVISION OF THE EXTERNAL RECTUS MUSCLE. SUBSEQUENT RESTORATION OF STEREOSCOPIC VISION.

By WILLIAM M. LESZYNSKY, M. D.

John O., a school-boy, fourteen years of age, consulted me October 6, 1888, and gave the following history:

He was well until his sixth year, when, after an attack of scarlatina, the left eye became divergent. A few months later bilateral clonic blepharospasm appeared, and was temporarily relieved by the instillation of atropine. The spasm has continued at varying intervals to date, and he complains of frequent diplopia.

He is anæmic. Clonic blepharospasm is pronounced and frequent. The eyelids suddenly and forcibly close with a "snap," involving the upper facial muscles and the occipito-frontales. There is divergent strabismus (non-paralytic) affecting the left eye, leaving about two lines of the cornea exposed. With effort he succeeds in converging, but as a rule he "fixes" with the right eye, the other eye diverging.

Pupils normal. Palpebral conjunctivitis of a mild type. Ordered atropine, astringent spray to eyelids, and strychnine, iron, and cod-liver oil internally.

*October 10th.*—Under atropine three days. Right eye, vision $= \frac{20}{20}$; accepts no glass. Left eye, vision $= \frac{4}{200}$; $\frac{20}{40}$ + with $- \frac{1}{7}$ s. $- \frac{1}{60}$ C. ax. 150°. Ophthalmoscopic examination: No fundus lesion. Right eye, emmetropic; left, myopic astigmatism.

*20th.*—Still under atropine and "spray." Spasm decidedly diminished. Crossed diplopia. Fuses images with prism of 33°. Discontinue atropine.

*30th.*—Relapsing into former condition.

*November 1st.*—With correction over left eye there is right "hyperphoria" 14°, and "exophoria" 30°.

*December 7th.*—Blepharospasm only occurs occasionally, but he frequently "blinks." Complete division of the left externus was done under cocaine, and the glass accepted while under atropine was ordered to be worn over left eye, with window-glass over right.

*March 10th.*—He wears the glasses with comfort, and has been perfectly well since last note.

Examination shows that there is 5° of "exophoria," with restoration of binocular single vision.

The unusual features in this case are the relief and cure of the blepharospasm, the glasses being worn without discomfort, and the recovery of stereoscopic vision.

Note.—*April 20th.*—Patient has been constantly employed during the last three months. The glasses have been worn continuously and he remains well.

636 Lexington Avenue.

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## THE TRANSMISSION OF TYPHOID FEVER FROM THE MOTHER TO THE FŒTUS.

A recent number of the "Fortschritte der Medicin" contains an interesting article by Dr. C. J. Eberth, of Halle, concerning the transmission of the typhoid-fever bacillus from the mother to the fœtus. Numerous observations and experiments upon this subject have previously been made with apparently positive results, but none of the observations have been entirely free from objection; and in none of them has the character of the organism found in the fœtus been fully determined.

The first reported case of the apparent transfer of the typhoid process from the mother to the child was published by Reher in 1885. In this case a woman in the sixth month of pregnancy, while sick with typhoid fever, aborted on the nineteenth day of the disease. Soon after the abortion occurred the temperature fell and convalescence was established. The fœtus seemed to have died either shortly before or during birth. There was no swelling of the solitary follicles in the intestines, there were no ulcers, there was no swelling of the mesentery glands, and there was no increase in the size of the spleen. But inoculations from the liver and spleen upon nutrient gelatin gave cultivations of isolated colonies of typhoid-fever bacilli. No bacilli, however, could be found in cover-glass preparations made from the spleen or liver. This observer explained the absence of the characteristic lesions of typhoid fever on the ground of the altered avenue of entrance of the bacilli, since here they must have entered directly into the circulation, and their multiplication and colony formation would, he thought, be different from those occurring when they had effected their entrance through the alimentary canal or the respiratory passages.

The second case was reported by Neuhauss, and in that case abortion took place in the fourth month of pregnancy and in the fourth week of the disease, four days after the temperature had fallen to the normal point. Inoculations were made with particles of the lung, the liver, the spleen, the kidneys, the brain, and the contents of the intestines upon nutrient gelatin. After two days a growth of the typhoid-fever bacilli was found in the tubes which had been inoculated with particles of the lung, spleen, and kidney. The spleen of the fœtus was not enlarged, and there were no swollen patches or ulcers in the intestines.

Chantimesse and Widal found typhoid bacilli in large numbers in the blood of the placenta of a woman who had aborted at the fourth month of pregnancy and the twelfth day of the fever. Cultivation tubes inoculated with this blood gave numerous colonies. The cultivations were afterward used for the inoculation of animals.

In none of these observations as reported have there been careful descriptions of the organisms found, so that their identity with the typhoid-fever bacilli could be determined. Eberth, however, details the history of a case which apparently affords proof of the possibility of the transmission of typhoid fever from the mother to the child. In this case, a woman, thirty years of age, the mother of six children, at the end of the third week of typhoid fever and about the seventh month of pregnancy, gave birth to a child. The fever continued for several weeks after. The diagnosis of typhoid fever was confirmed by the whole course of the disease as reported. Eleven hours after the birth, after cleansing of the outer skin and complete sterilization of the operator's hands and instruments, the thorax of the fœtus was opened and the heart was removed. Then tubes were inoculated from the heart-blood, other tubes were also inoculated from particles from the lung and spleen, and preparations were made from these for microscopical examination. There were no perceptible changes in the placenta or in any of the organs of the fœtus. In the preparations from the heart-blood, after long searching, a few isolated bacilli, four or five in a field, were found; they corresponded in appearance to the typhoid-fever bacilli. These were also found in preparations made from the lung and from the spleen, but in sections from the spleen no organisms could be found. At the end of the second day, in the gelatin cultivations a perceptible growth was apparent, which afterward showed all the characteristic appearances of cultivations of the typhoid-fever bacilli in gelatin tubes. On transfer of these to gelatin plates, to potatoes, and to other media, they presented always the characteristic appearances of the typhoid-fever cultivations on these various substances. Their staining reactions also corresponded with those of typhoid-fever bacilli. In order to exclude the possibility of error from the presence of some organism of decomposition similar in appearance to the typhoid-fever bacillus, that might have found its way into the fœtal blood, eight other cases were examined in which abortion had occurred from other causes than typhoid fever at various periods of pregnancy. In none of these did any organisms develop that in any way resembled those found in the first case; and in the inoculations made from the fœtus in perfectly fresh cases of abortion no cultivations were obtained.

When we compare, then, the results obtained by Reher, Neuhauss, Chantimesse, and Widal with the results obtained by Eberth in these eight cases, we must conclude that the organisms they found in their cases were the typhoid-fever germs, and that these germs may be transmitted from the mother to the fœtus. For the complete identification of the organism found by him with the typhoid-fever bacillus, Eberth sent cultivations to Gaffky, of Giessen, and these were carefully examined by him and also declared to be typhoid-fever bacilli.

Eberth concludes that it is not possible with the scanty material at hand to say whether the typhoid-fever bacillus is always transferred from mother to child or only under certain conditions. It seems probable, however, that disturbances in the placental circulation, especially hæmorrhages, favor transfer of the bacilli to the fœtal body.

## THE "PORTATIVE-TRACTION" TREATMENT OF HIP-JOINT DISEASE.

In our issue for April 27th we published an article entitled "Orthopædic Surgery in England and the United States," which was called forth by a pamphlet published by Mr. Thomas, of Liverpool, in which that gentleman spoke disparagingly of American orthopædic practice, especially in so far as it related to the "portative-traction" principle, and flippantly of an esteemed contributor to our own columns. Our article therefore naturally had reference chiefly to these two matters. It has been represented to us that some of our readers have drawn the inference that our article was intended to be laudatory of one man, rather than a defense of American orthopædic practice in general. We disclaim any such intention, except so far as it was made unavoidable by the fact that the English pamphlet was aimed chiefly at that one man.

We are perfectly well aware of the fact—and properly proud of it—that American orthopædists do not all agree on every point of doctrine or of practice; and we do not forget that their individual efforts have resulted in giving so wide a range to orthopædics in America that the "portative-traction" principle can not be considered as the embodiment of American practice or even as its major manifestation. We still think, however, that its adoption was a distinct step in advance, and that it has a value that is not utterly done away with by the consideration that hip-joint disease begins, not on the articular surfaces, but at the epiphyseal line. As to how it accomplishes its object, whether by traction or by fixation, it seems to us that that is a question that admits of solution according to the features of the case, and not in strict conformity to any hard and fast rule.

As to Dr. Shaffer's article on "The Ultimate Results of the Mechanical Treatment of Hip-joint Disease," etc., we have simply to repeat that we consider it "a scientific essay of importance." But we are quite of the opinion that an orthopædic surgeon may dissent on solid grounds from some of the views inculcated in it. The whole truth will ultimately be worked out, and those who aid in its attainment, whether by espousing one or another of the various hypotheses and experimental methods of procedure that will at last lead up to it, are all deserving of commendation. In particular, there is no occasion to decry Mr. Thomas's views or his practice; it may be that we have more to learn concerning his "flexion test" in diagnosis and concerning the value of his method of treatment. A correspondent has kindly furnished us with a description of Mr. Thomas's apparatus. According to our correspondent, it is made of soft iron, not of steel, which would be too elastic; it is not bent to conform to the outline of the body; and it does not terminate at the lower end of the thigh bone, but extends to the lower third of the leg. "Thus," our correspondent adds, "it prevents voluntary flexion at the knee, and controls the twitching of the quadriceps and hamstring muscles, and, when the patient is supine, gives the added weight of a rigid lower extremity to overcome flexion of the thigh, as in the Taylor (but more perfectly in the Judson) hip splint." It is very certain, however, that American practice must not be gauged by Mr. Thomas's ideas alone, and it was against that that we contended.

Several unwarrantable inferences have been drawn from our article—for example, it is not true that, in enumerating some of the chief American institutions in which orthopædics was taught and practiced, we sought to imply that the teachers and practitioners were all engaged in exploiting the "portative-traction" idea, or even that they all held to it; we know that that is not the case. Neither is it true that we meant to represent Mr. Thomas's apparatus as a modification of the late Dr. Hutchison's. Its use is said to have antedated that of the Hutchison device.

## *MINOR PARAGRAPHS.*

### TREPHINING OF THE PELVIS FOR SUPPURATIVE PSOITIS

In the "Revue de chirurgie" for March, M. Michel Gangolphe, of Lyons, has a noteworthy article on this subject. He gives the histories of two cases of his own and a case of Boucher's, and refers to articles by Weiss, Fischer, Rinne, and Condamin. His conclusions are that infectious and even traumatic psoitis is of exceptional gravity, whether on account of the patient's general condition or of the extent of the local trouble, especially the possibility of implication of the hip joint; that early evacuation of the pent-up pus is the best means of preventing a fatal issue; that trephining of the pelvis, as practiced by him, is easily and rapidly done, is free from danger, and admits of the establishment of perfect drainage of the iliac cavity; and that, according to the features of the particular case, it may be associated with one of the classical lumbar, inguino-crural, or posterior crural incisions. The situation that he considers most eligible is a point nearly three fingerbreadths below the crest of the ilium and three fingerbreadths behind the anterior superior spine.

### THE PNEUMONIA OF PARALYTICS.

Dr. Bianchi and Dr. Armanni have contributed to the "Rivista clinica e terapeutica" an article on the nature of the pulmonary affections of paralytics. It appears from an abstract in the "Deutsche Medizinal-Zeitung" that the authors have found that in the subjects of general paresis pneumonia is always associated with degeneration of the pneumogastric nerves, and is of the sort produced in animals by division of those nerves. Its exciting cause may consist in the entrance of particles of food and the fluids of the mouth into the bronchial tubes.

### FALSE RABIES DUE TO WORMS.

"Lyon médical" gives a summary of an article in the "Journal des connaissances médicales," by Dr. A. Silvestrini, in which the author states that he has observed several cases of disease in dogs, especially hunting dogs, in Tuscany, infested with the *Strongylus gigas*. Among the symptoms is a disposition to bite, the animal avoids the light, its mouth is red and frothing, its voice is hoarse, and its gait is vacillating. Its expression is that of suffering, rather than of ferocity. The condition is somewhat difficult to distinguish from rabies, but the occurrence of hæmaturia, from the lodgment of the parasite in the urinary passages, establishes the diagnosis. The disease is fatal, except in the rare cases in which the worm is expelled by the urethra.

### AN HONOR DECLINED.

The president of the Medical Society of the County of New York, Dr. Alexander S. Hunter, wishes it to be understood by the medical profession that a certain pamphlet entitled "Observations and Experiences involving Rectal Disease," published with the statement that it had been "read before the New York County Medical Society, February 14, 1889," was never read before the society that he represents, and, further, that the society declines to accept the proffered honor. The author's motive, as expressed in reply to a letter from Dr. Hunter—"I printed it so as to command more uniform attention"—can hardly be accepted as a justification. He is said to have read his production before the Homœopathic County Medical Society.

### VAGINO-FIXATION.

This is the name given by M. Péan to a procedure that he proposes as a better one than abdominal hysterorrhaphy in cases of prolapse of the uterus that prove rebellious to colpo-perinæorrhaphy. According to an abstract given in the "Archives de tocologie" of his article in the "Bulletin médical," M. Péan founds his opinion on the fact that the lateral part of the vagina in the normal condition is fixed to the side of the pelvis with considerable firmness by means of dense connective tissue. In cases of procidentia, he says, this natural fixation is relaxed, and he proposes to re-establish it. Having replaced the uterus and adjacent structures, he passes a double row of sutures along each side of the vagina, through the recto-vesical septum and the vesico-vaginal septum respectively. Their application is facilitated by the use of long forceps with one blade in the vagina and the other in the rectum or the bladder. The sutures are removed in three weeks. They will be found to have cut the tissues, with the formation of enough cicatricial tissue to act as a sufficient support. The operation is concluded, however, by the performance of colpo-perinæorrhaphy.

### A COUNTRY RESORT FOR CHILDREN THAT ARE NOT POOR.

It has been said that in some respects the children of the poor have been better provided for than those of the well-to-do, and one of these exceptional privileges has been the sea-side sanitarium in hot weather. We learn with pleasure that Dr. Jerome Walker, of Brooklyn, has varied this state of things, and will hereafter give the sick child that is not poor a chance to recuperate at his resort, on the north shore of Long Island, near Port Jefferson, at a place called Crystal Brook.

### COTTON-SEED OIL AS FOOD.

At a recent meeting of the New York State Board of Health, the State analyst, Dr. W. G. Tucker, made a report upon the use of cotton-seed oil as a food substance. He had made a thorough examination of the oil and had been able to find no injurious effect upon the health from its employment as food.

### THE INDIGENT INSANE BILL.

The bill before the New York legislature providing for the removal of the pauper insane from the county poor-houses to the State asylums has been defeated in the assembly. This must be considered a repulse, however, rather than a defeat, since the moral and medical sentiment supporting the measure is a powerful and growing one. The bill will, without doubt, be renewed year after year until it becomes a law. The proposed reform was initiated by the State Charities Aid Association, and has been fully indorsed by the State and county medical societies and the Neurological Society. The failure of the measure to become a law this year is said to have been accomplished by the efforts of the superintendents of the poor in the various counties affected by the bill, their opposition being ostensibly on the score of economy, not on the grounds of better care and treatment. Under the present system, some petty profits accrue to these superintendents, which will be taken from them when the reform measure passes.

### VITAL STATISTICS FOR THE CENSUS.

The Census Office has begun the work of circulating its notices to the public press that the census year begins on the first of June next, and ends May 31, 1890, and that physicians are requested to keep a duplicate record of all deaths occurring in their practice during that period, for the decennial report on vital statistics.

### AN ACCIDENT WITH THE SUSPENSION APPARATUS.

During the week the melancholy occurrence has taken place of the death of a medical practitioner while practicing self-suspension alone. The accident is not unparalleled in this community, which still remembers the death of an estimable young lady in the same way, and orthopædic surgeons are cognizant of many instances in which only assistance coming in the very nick of time has warded off a like fatal disaster. There is danger that public knowledge of these matters, especially in the light of the sensational manner in which one of the newspapers has seen fit to lay the latest occurrence of the sort before its readers, will lead to a popular prejudice against the use of suspension. But it should be borne in mind that physicians accustomed to its employment have again and again given their warning against the use of the apparatus in the absence of adequate assistance. So recently, indeed, as last week, in our own columns, Dr. Hammond said: "Though perfectly safe when due care is exercised, suspension should never be made use of except under the immediate supervision of a physician. . . . I am quite confident that we shall some day hear that a neck has been dislocated and sudden death produced by the unskillful use of this method." The only safeguard seems to us to lie in the use of an apparatus that can not be worked by one person alone.

### A REMARKABLE FISTULA.

In the "Deutsche Monatsschrift für Zahnheilkunde" for December, 1888, Dr. Nicolai, of Stuttgart, gives the history of a case in which a fistula opening at the nipple was found to be connected with a diseased molar tooth. According to a summary in the "Centralblatt für Chirurgie," the connection was first inferred from the fact that the discharge from the opening just above the left nipple ceased at once after proper treatment of the diseased left lower first molar, and it was afterward proved by an injection of cochineal into the alveolus of the tooth, which caused a red coloration of the pus discharged at the nipple. Further examination showed that the pus had made its way through the maxilla, descended along the border of the sterno-cleido-mastoid muscle, perforated the fascia of the platysma myoides, and coursed over the pectoral muscle into the substance of the mammary gland. The fistula closed in twelve days after the removal of the diseased tooth.

### HYDROXYLAMINE.

In the "Proceedings of the Royal Society," vol. xlv, No. 277, Dr. T. Lauder Brunton and Mr. T. Jessopp Bokenham adduce the researches of Raimondo and Bertoni, Binz, and others to show that hydroxylamine might be expected to act like the nitrites in reducing the blood-pressure. This they have found by experiment that it actually does, resembling the nitrites so closely in its action that sphygmograms taken after intravenous or intraperitoneal injections of the hydrochloride are so nearly identical with those taken after like injections of amyl nitrite that it is almost impossible to tell the one from the other by mere inspection.

## ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 14, 1889:

| DISEASES. | Week ending May 7. | | Week ending May 14. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 6 | 1 | 14 | 4 |
| Scarlet fever | 319 | 36 | 308 | 34 |
| Cerebro-spinal meningitis | 4 | 4 | 1 | 2 |
| Measles | 146 | 9 | 145 | 3 |
| Diphtheria | 179 | 62 | 154 | 43 |

**The Society of the Alumni of Charity Hospital,** a new organization already numbering between forty and fifty members, held its first regular meeting on Tuesday evening, May 7th. The officers are as follows: President, Dr. Ramon Guitéras; vice-president, Dr. C. W. Stimson; secretary, Dr. W. L. Baner; treasurer, Dr. Granville M. White. Ex-internes of the hospital who wish to join the society are asked to communicate with the chairman of the committee on new members, Dr. Walter L. Carr, No. 54 West Thirty-eighth Street, giving the dates of their terms of service.

**A New Medical College in Tennessee.**—A medical college has been organized in Knoxville, with the following-named faculty: Dr. J. C. Cawood, dean and professor of theory and practice of medicine; Dr. C. M. Drake, professor of anatomy and pathological anatomy; Dr. C. C. Lancaster, professor of physiology; Dr. W. E. Moses, professor of chemistry; Dr. J. W. Hill, professor of surgery; Dr. W. M. Bowen, professor of orthopædic and operative surgery; Dr. R. M. C. Hill, professor of materia medica and therapeutics; Dr. C. E. Ristine, professor of obstetrics and gynæcology; Dr. J. M. Masters, professor of diseases of the eye, ear, nose, and throat; Dr. M. Campbell, professor of mental and nervous diseases; the Hon. H. R. Gibson, professor of medical jurisprudence; and Dr. C. M. Cawood, demonstrator of anatomy. It is announced that there is to be a chair of dental surgery.

**The June Medical Meetings.**—A number of the State medical societies hold their annual meetings in the month of June. Those of the societies of Pennsylvania and New Jersey begin on the 4th prox.; those of Massachusetts, Maine, Delaware, and Oregon on the 11th; that of Rhode Island on the 13th; those of New Hampshire, Tennessee, and Colorado on the 18th; that of Minnesota on the 20th; and that of Vermont on the 27th.

**An Asylum for Feeble-minded Children,** at Frankfort, Kentucky, was completely destroyed by fire on the 3d of May. It was a State institution accommodating 160 children and twenty or more attendants. There was no loss of life.

**The Episcopal Hospital, of Philadelphia,** has been offered a fund of $200,000 for a retreat for incurables. One half the sum will be put into the building, while the other half will be invested for maintenance. This annex will bear the name of the late George Harrison, whose family have contributed the entire fund, with a view to commemorate his name and his many benefactions to the hospital during his life-time.

**The John Wells Memorial Hospital,** of New Brunswick, N. J., has recently been completed and handed over to the trustees of the City Hospital, which will abandon its old quarters in a hired building. It will adopt the new name above given in recognition of the gift to the public by Mrs. John Wells, by whom the new hospital has been erected in memory of her deceased husband.

**The Population of the United States.**—The present estimated population of the United States is 64,000,000. The rate of increase, exclusive of immigration, is estimated at 1·8 per cent. per annum—about 100,000 a month. By immigration, the increase of population averages over 43,000 a month, or over half a million yearly. The aggregate annual growth from both causes will not fall much short of a million and three quarters. The estimated foreign population is not far below 14,000,000.

**The British Medical Association.**—The "British Medical Journal" announces that, at the fifty-seventh annual meeting, to be held at Leeds, on the 13th, 14th, 15th, and 16th of August, the address in medicine will be given by Dr. J. Hughlings Jackson, the address in surgery by Mr. T. Pridgin Teale, and the address in psychology by Sir J. Crichton Browne.

**An International Atlas of Skin Diseases.**—The editor of the "Monatshefte für praktische Dermatologie," Dr. P. G. Unna, announces the collaboration of Dr. L. A. Duhring, of Philadelphia, Dr. Henri Leloir, of Lille, and Mr. Malcolm Morris, of London, with himself in the preparation of an atlas of rare diseases of the skin, to be published in Hamburg.

**The Woman's Hospital.**—Dr. Clement Cleveland has been appointed one of the surgeons to the hospital. Dr. Cleveland has served the institution for many years as an assistant surgeon.

**The "Kansas Medical Journal"** is the title of a new monthly journal published at Topeka, edited by a committee consisting of Dr. W. L. Schenck, of Osage City, and Dr. J. E. Minney and Dr. S. G. Stewart, of Topeka. The editors say that, like babies, "this periodical has come into existence unsolicited, but not without a cause."

**The Death of Dr. Duane B. Simmons,** a well-known American physician of many years' residence in Japan, is announced in the "Albany Medical Annals" as having occurred at Tokio on the 19th of February.

**Changes of Address.**—Dr. Joseph C. Clark, to Olean, Cattaraugus Co., N. Y.; Dr. Henry J. Kelly, to No. 267 Lexington Avenue.

**The New York State Medical Association.**—The Fifth District Branch will hold its fifth annual meeting at No. 177 Montague Street, Brooklyn, on Tuesday, May 28th. There will be an address by the president, Dr. William T. Lusk; remarks on the late Dr. J. S. Andrews will be made by Dr. R. M. Wyckoff, and on the late Dr. I. H. Ashton by Dr. R. J. Southworth; and papers will be read as follows: "The Genesis of Tumors," by Dr. T. H. Manley; "Calcification of the Cardiac Left Ventricular Wall following Subacute Verrucose Endocarditis," by Dr. F. E. Martindale; "Traumatic Pelvic Cellulitis," by Dr. T. H. Allen; "Some Recent Surgical Cases, with Comments and Deductions," by Dr. J. A. Wyeth; and "The Treatment of Pneumonia," by Dr. J. G. Truax.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from April 28 to May 11, 1889:*

Forwood, W. H., Surgeon, Medical Department, Fort Snelling, Minnesota, is granted leave of absence for one month, based on surgeon's certificate of disability, with permission to leave the limits of the department. Par. 1, S. O. 35, Headquarters Department of Dakota, St. Paul, Minnesota, April 8, 1889.

Borden, William C., Captain and Assistant Surgeon. Relieved from duty at Fort Ringgold, Texas, and ordered to report to the commanding officer at San Antonio, Texas, for duty at that post. Par. 7, S. O. 100, A. G. O., May 1, 1889.

Ainsworth, F. C., Captain and Assistant Surgeon, will, by direction of the Acting Secretary of War, proceed to Albany, N. Y., on business connected with the Medical Department. Par. 7, S. O. 105, A. G. O., May 7, 1889.

Brown, Paul R., Captain and Assistant Surgeon, is, by direction of the Secretary of War, relieved from further duty in the Department of the Platte, and will proceed to Fort Thomas, Arizona, and report in person to the commanding officer of that post for duty, and by letter to the commanding officer, Department of Arizona. Par. 10, S. O. 105, A. G. O., May 7, 1889.

Appel, D. M., Captain and Assistant Surgeon. Relieved from duty at Fort Sill, Indian Territory, and ordered to Fort Bliss, Texas. Par. 25, S. O. 104, A. G. O., Washington, May 6, 1889.

Cowdrey, S. G., Captain and Assistant Surgeon. Relieved from duty at Fort Bliss, Texas, and ordered to Fort Marcy, New Mexico. Par. 25, S. O. 104, A. G. O., May 6, 1889.

Finley, James H., Captain and Assistant Surgeon. Relieved from duty at Fort Assiniboine, Montana Territory, and ordered to Fort Totten, Dakota. Par. 25, S. O. 104, A. G. O., Washington, May 6, 1889.

De Loffre, August A., Captain and Assistant Surgeon. Relieved from duty at Fort Totten, Dakota, and ordered to Columbus Barracks, Ohio. Par. 25, S. O. 104, A. G. O., Washington, May 6, 1889.

Taylor, B. D., Captain and Assistant Surgeon. Relieved from duty at Columbus Barracks, Ohio, and ordered to Fort Sill, Indian Territory. Par. 25, S. O. 104, A. G. O., Washington, May 6, 1889.

Fisher, Walter W. R., Captain and Assistant Surgeon, is hereby granted leave of absence for one month. Par. 1, S. O. 30, Headquarters Department of California, San Francisco, Cal., April 27, 1889.

Kendall, William P., First Lieutenant and Assistant Surgeon, will be, by direction of the Acting Secretary of War, relieved from duty in the Department of California after he shall have complied with the requirements of Par. 2, S. O. 29, April 24, 1889, from these headquarters, and will then proceed to Fort D. A. Russell, Wyoming, for duty at that station. Par. 28, S. O. 104, A. G. O., May 6, 1889.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 11, 1889:*

Beardsley, Grove S., Medical Inspector. Detached from the Brooklyn, and to proceed home and wait orders.

Lovering, P. A., Passed Assistant Surgeon. Detached from the Brooklyn, and to proceed home and wait orders.

Norton, Oliver D., Assistant Surgeon. Detached from the Brooklyn, and to proceed home and wait orders.

Hawke, J. A., Surgeon. Detached from the Essex, and to proceed home and wait orders.

Stokes, C. F., Assistant Surgeon. Detached from the Minnesota and ordered to the Iroquois.

Bransford, John F., Surgeon. Orders to the Iroquois revoked. Resignation accepted, to take effect May 4, 1890, with leave of absence granted to that date, with permission to leave the United States.

**Marine-Hospital Service.**—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for four weeks ending May 11, 1889:*

Purviance, George, Surgeon. Detailed as chairman of board for the physical examination of candidates for appointment as cadets, Revenue Marine Service. May 3, 1889. Detailed as chairman of board for the physical examination of officers, Revenue Marine Service. May 11, 1889.

Irwin, Fairfax, Surgeon. To proceed to Bath, Wiscasset, Rockland, Belfast, Bangor, Ellsworth, Machias, and Eastport, Maine, as inspector. April 22, 1889.

Mead, F. W., Passed Assistant Surgeon. Detailed as recorder of board for the physical examination of candidates for appointment as cadets, Revenue Marine Service. May 3, 1889. Detailed as recorder of board for the physical examination of officers, Revenue Marine Service. May 11, 1889.

Wheeler, W. A., Passed Assistant Surgeon. Granted leave of absence for thirty days. April 16, 1889.

Bratton, W. D., Passed Assistant Surgeon. Relieved from duty at San Francisco, Cal.; to assume charge of the Service at Portland, Oregon. May 8, 1889.

Magruder, G. M., Assistant Surgeon. To proceed to Baltimore, Md., for duty. May 8, 1889.

Perry, T. B., Assistant Surgeon. When relieved at Portland, Oregon, to proceed to San Francisco, Cal., and await orders. May 8, 1889. To report to the commanding officer, Revenue Steamer Rush, for special duty. May 11, 1889.

Condict, A. W., Assistant Surgeon. When relieved from duty at Boston, Mass., to await orders. May 8, 1889. To report to the commanding officer, Revenue Steamer Chase, for special duty. May 11, 1889.

Hussey, S. H., Assistant Surgeon. When relieved from duty at Baltimore, Md., to proceed to Boston, Mass., for duty. May 8, 1889.

Geddings, H. D., Assistant Surgeon. To proceed to Baltimore, Md., for temporary duty. May 8, 1889.

**Society Meetings for the Coming Week:**

Monday, *May 20th:* New York Academy of Medicine (Section in Ophthalmology and Otology); New York County Medical Association; Medico-chirurgical Society of German Physicians; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *May 21st:* Illinois State Medical Society (Jacksonville); Missouri State Medical Society (Springfield); Nebraska State Medical Society (Kearney); New York Academy of Medicine (Section in Theory and Practice of Medicine); New York Obstetrical Society (private); Medical Societies of the Counties of Kings and St. Lawrence (annual), N. Y.; Ogdensburgh Medical Association; Hampden, Mass., District Medical Society (annual—Springfield); Baltimore Academy of Medicine.

Wednesday, *May 22d:* Connecticut State Medical Society (Hartford); Ohio State Medical Society (Youngstown); New York Surgical Society; New York Pathological Society; American Microscopical Society of the City of New York; Medical Society of the County of Albany; Philadelphia County Medical Society.

Thursday, *May 23d:* New York Academy of Medicine (Section in Obstetrics and Diseases of Women and Children);

New York Orthopædic Society; Roxbury, Mass., Society for Medical Improvement (private); Pathological Society of Philadelphia.

Friday, *May 24th:* Yorkville Medical Association (private); New York Society of German Physicians; New York Clinical Society (private); Philadelphia Clinical Society; Philadelphia Laryngological Society.

Saturday, *May 25th:* New York Medical and Surgical Society (private).

## Letters to the Editor.

### HOMŒOPATHY.

Milwaukee, *April 26, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: In your article of April 13th, p. 410, "A Judicial View," etc., you use the following language: "It is their constant and clandestine recourse to what they are pleased to term 'allopathy' that fastens on them a disgrace," etc. Is not this a little bit unfair to your homœopathic friends? If it is a disgrace for a homœopathist to resort to "allopathic" measures, why not belabor your own side for resorting "clandestinely" to homœopathy occasionally? Do you think they do not? If so, it is because the right hand has kept the left in ignorance. But can you give any good reason why I, who read your valuable journal, and endeavor to profit thereby, should not, because I am a homœopathic practitioner, occasionally make use of some suggestion that some of your well-known colleagues may make? Perhaps you imagine that we are all either "knaves or fools," as I have heard some of your brethren speak of us.

Now I can assure you that the bulk of the homœopathic practitioners are honest in their practice and treat their families and themselves as they treat others. I do not mean thereby that they never make a prescription to be filled at a drug-store (although it is a fact that some here have incurred the enmity of some of the druggists, to the extent that they refused to telephone for them for patients who wanted them, on the ground that they made no prescriptions to be filled). Of course, there are homœopaths and homœopaths. But, as allopathy (or regular medicine, if you like it better) should be judged by its best and not its worst representatives, so homœopathy should be allowed like fair play. So far as the "fool" part is concerned, I have never yet seen a homœopathic physician of reasonable ability and of honorable character who did not enjoy a sufficient practice. Of course, old women of both sexes who have only taken up a domestic book and sallied forth must expect to be beaten in the race. But canvassers assure me that the average homœopathic physician buys as many (if not more) allopathic works as his regular brother.

In von Ziemssen, vol. i, p. 82, occurs the following remarkable passage: "The use of the thermometer in private practice, showing as it does to unprofessional persons the importance of the rise and fall of temperature and the effect of treatment on the fever (typhoid), has more than anything else narrowed the field of homœopaths and charlatans." I am afraid Liebermeister saw through dark glasses when he penned this. If he had cast his eye over this way at least he would have found that homœopaths rely upon the use of the thermometer to fully as great an extent as those of the regular school, and do not find their faith diminished thereby. Joseph Lewis, Jr.

⁂ We do not feel called upon to defend the proposition that homœopathists are either fools or knaves, for we have never brought it forward and do not believe it to be true; furthermore, we cheerfully admit (what we have long known to be a fact) that homœopathic practitioners buy medical publications freely, and our impression is that they are quite familiar with the general run of medical literature. We do not find fault with them for the mere fact of deviating from their proclaimed "great and only" therapeutic principle, but for doing so (we must repeat the word) clandestinely, and then crediting their successes to that principle, although they were achieved by forsaking it. It is of the essence of homœopathy, as we understand it, that the doctrine of similars is all-sufficient, no exceptions being admitted; consequently, when a professed homœopathist departs from rigid conformity to that doctrine, he deserts his colors. When, however, a non-sectarian practitioner resorts to the homœopathic principle, he simply avails himself of a principle that has been recognized from the most ancient times as one of limited applicability; he does no violence to his professions, because he has made none.

## Proceedings of Societies.

### NEW YORK NEUROLOGICAL SOCIETY.

*Meeting of April 2, 1889.*

The President, Dr. George W. Jacoby, in the Chair.

**Election of Officers.**—The following were chosen for the ensuing year: President, Dr. George W. Jacoby; first vice-president, Dr. W. R. Birdsall; second vice-president, Dr. C. L. Dana; recording secretary, Dr. Frederick Peterson; corresponding secretary, Dr. E. D. Fisher; treasurer, Dr. G. M. Hammond; councillors, Dr. E. C. Seguin, Dr. M. D. Field, Dr. L. C. Gray, Dr. B. Sachs, and Dr. M. A. Starr.

**Fracture of the Body of the Twelfth Dorsal Vertebra with Compression of the Cord.**—Dr. C. L. Dana presented for Dr. J. W. S. Gouley a specimen of the spine and spinal cord in a case of this kind. The case was of special interest in connection with the subject of spinal surgery and of operative interference in cases of fracture and paraplegia. A man, aged twenty, had fallen on April 19, 1887, through a floor a distance of ten feet, striking on the abdomen and then turning on the back. Complete motor and sensory paraplegia with involvement of the sphincters had at once set in. When he was examined next day by Dr. Gouley at Bellevue Hospital, the lower limbs were motionless and there was total anæsthesia up to Poupart's ligament on the left side and half way up the thigh on the right. The fæces came away involuntarily and the urine had to be drawn. There had been no record of fever or pain, except a little of the latter in the back. The patient's condition had remained without much change, except that the legs had become atrophied and the reflexes lost, for two years, until his death in February, 1889. The autopsy had shown fracture of the body of the twelfth dorsal vertebra and forward projection of a fragment, reducing the size of the canal to three millimetres and cutting the cord almost in two. The cord was disorganized at its lower extremity, and secondary degenerations were present which would be studied subsequently.

**A Case of Tumor of the Brain; Removal; Death.**—Dr. Philip C. Knapp, of Boston, reported the history of a case of this affection. The patient was a man of thirty-two, a florist, with a good personal and family history. In the summer of 1886 he had had some nausea and vomiting, and the next winter his hand had begun to feel stiff. In March, 1887, he had a convulsion, and about the same time he lost power in the left hand. Since that time he had had repeated convulsions, in many of which the left hand had been first affected, and there had been a left hemiplegia with contracture. Vision had steadily failed, the mental powers had declined, and he had had headache, vertigo, nausea, and vomiting. Physical examination had shown tactile and thermal anæsthesia on the left side, most marked in the left forearm; loss of muscular sense on that side; double optic neuritis; paralysis with contracture: and diminished cutaneous and exaggerated tendon reflexes on the paralyzed side. He was admitted into the Boston City Hospital, December 17, 1888, and on the 28th a tumor was removed by Dr. E. H. Bradford. The tumor was tubercular, weighing thirty-five grammes, and bacilli were found in it under the microscope. It was subcortical and situated in the ascending frontal and parietal convolutions of the right hemisphere, about opposite the second frontal convolution, extending downward and backward into the inferior parietal lobule. The patient had died of shock in three quarters of an hour. There had been no autopsy. The localizing symptoms had been the convulsions, paralysis, and anæsthesia. The proportion of tumors accessible to the surgeon was regarded, on comparison of statistics, as about 5 to 7 per cent. Fifteen cases had thus far been reported in which the tumor had been removed, and eight of recovery from the operation. Four cases of operation for cerebral cysts were cited, and four cases where the tumor was not found at the operation, but was discovered at the autopsy. Some measurements on skulls and heads were given showing the inaccuracy of Broca's method of cranio-cerebral topography.

Dr. C. L. Dana said that neurologists might congratulate themselves that their part in Dr. Knapp's case turned out so correctly and satisfactorily. He thought this case tended to confirm the view that the motor areas represented cutaneous sensation also to a considerable extent. Dr. Knapp's statistics showed that operations had been quite successful, yet he had made them too flattering. The mortality was somewhat larger. He thought that in cerebral surgery surgeons had not yet reached the degree of perfection in technique that was necessary. The length of time of the operation should be reduced and hæmorrhage more carefully guarded against. As to cranio-cerebral topography, no more accurate rule was needed than that of Horsley for finding the Rolandic fissure; it was more difficult to discover the fissure of Sylvius, and the rules for reaching its position on the skull were inexact.

**Hemichorea following Cranial Injury.**—Dr. Frank H. Ingram presented a case of this affection. An adult man had sustained, seventeen years before, a depressed fracture of the skull in the left parieto-frontal region. After two years choreiform movements had developed in the right arm, gradually extending to the right leg and the right side of the neck. The speaker ascribed the hemichorea to some organic lesion over the motor areas of the right hemisphere, indirectly traceable to the injury to the skull.

Dr. M. A. Starr remarked that the movements in this man, so far as the right side was concerned, had been almost precisely like those in a case of paramyoclonus multiplex that he had reported some time before. There were the same violence and irregularity.

Dr. B. Sachs thought there could have been no injury to motor areas in Dr. Ingram's case, because, instead of any paresis, there was actually very great strength on the choreic side. He believed it to be a functional neurosis and not organic.

Dr. Starr called the attention of the last speaker to the fact that there might be hemiathetosis without paresis, although an organic lesion might be discovered post mortem. He referred to two cases, one of his own and one at Charity Hospital, in both of which the strength had been perfect on the affected side.

Dr. Field stated that the patient whose case had been mentioned by Dr. Starr as observed at Charity Hospital had recently cured herself by prayer, and that her case had been one of hysteria. This was the second time prayer had caused cessation of the athetoid movements in her case.

**Hæmorrhage into the Cervical Region of the Spinal Cord.**—Dr. W. M. Leszynsky presented the history of a case of this affection: J. B., aged nineteen, clerk, sixteen months ago had wrestled violently with a room-mate, had become exhausted, had lain down and slept half an hour. He had awakened with a dull pain between the shoulders and had had wrist-drop on both sides. In twenty minutes all four extremities had become paralyzed. During the first week there was occasional loss of control of the sphincters. In three months he had been improved so that he could walk without assistance, the left hand and arm, however, being decidedly paretic. At present there was partial paralysis of the left cervical sympathetic, producing contracted pupil and increase in surface temperature; there were paralysis and atrophy of the muscles of the left hand with degenerative reaction, and those of the thenar group of the right hand also were atrophied; both hands were cyanotic; there was no sensory disturbance; the tendon jerks in the arms were increased; and there were also a few changes in the lower extremities. He thought the lesion to be intramedullary hæmorrhage into the lower cervical segment of the spinal cord, followed by transverse myelitis.

Dr. Starr thought that the diagnosis made by Dr. Leszynsky was defensible. The loss of pain and temperature sense was a very interesting point in the case. The literature of syringomyelia showed that lesion of the gray matter of the cord cut off the pain and temperature tracts below the lesion.

## Book Notices.

*Electricity in the Diseases of Women*, with Special Reference to the Application of Strong Currents. By G. Betton Massey, M. D., Physician to the Nervous Department of Howard Hospital, etc. Philadelphia: F. A. Davis, 1889. Pp. viii–210. [Price, $1.50.]

In the introduction to this work the author states that a full test of the practical utility of electricity in gynæcology must show that it is an agent capable of being properly applied without the need of any great amount of technical skill, and further states that it is the main purpose of the book to show how the necessary skill can be gained even by the busy general practitioner. He wisely adds to this that only the most recent works upon the subject of electro-therapeutics should be consulted. While we believe that Dr. Massey is over-sanguine in his estimate of the degree to which the subject can be simplified, his book is better calculated to do this than any we have seen. It is modest and answers the question frequently asked, Where can we find a concise statement of the recent methods of using electricity in gynæcological work with a simple and elementary description of a battery? Chapter II is devoted to the work of clearing up the elementary considerations as to apparatus. The author has done this fairly well. It would appear from the attempts heretofore made in this direction that it is a most difficult task. One practical point may be mentioned in regard to the author's directions for testing the polarity of the electrodes. He speaks of the iodide-of-potassium test and also of distinguishing the poles by observing which gives the greater amount of pain. A much simpler and readier method is to immerse the electrodes in water, when the negative electrode is quickly detected by the bubbles of hydrogen which quickly collect about it.

That section of the book devoted to the practical details of treatment is very valuable. We regret to notice that the author speaks of the electrical treatment of conditions regarded as erosions and ulcerations as being an advance upon the older methods of dealing with these states. No treatment can be said to be an advance which fails to recognize the pathological condition as being entirely an effect and to be treated by treating the cause. The writer of this review is so firmly impressed with the justice of Schultze's views regarding the pathology of uterine flexions and their frequent dependence on inflammatory action of the utero-sacral ligaments, that he feels sorry the author has not emphasized the possible dangers in this connection. We venture to say, on general principles, that the case cited on page 181, in which the woman was seized with violent pain in the back while lifting a boiler, was not a fit case for the active reposition of an anteflexion seven days later with the use of a cauterizing current. Many gentlemen can recognize an anteflexion who are not accustomed to search for inflammation behind the uterus, and it is to be feared that the passage of a current of high intensity where such a condition was present might be followed by serious consequences.

In a foot-note to page 57 the author says that he thinks the cases of atresia reported by Apostoli were probably due to leaving too much of the sound uncovered, and on page 166 the statement is made ". . . and there is no doubt whatever at the present time that in the positive cauterization we have the safest and most promising means of creating a permanently patulous canal." The two statements do not harmonize, and we are inclined to believe that the dilatation was due to the mechanical stretching of the canal. This point should be definitely settled.

The chapter on extra-uterine pregnancy is much too restricted. Nothing is said of the use of powerful currents applied gradually. We regret that the lack of space does not permit of a more extended review of the book. It is not only the best of its kind, but is the only one of its kind. The author is conservative and painstaking, and has mastered his subject. We predict that the book will prove very successful.

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*Commotion, contusion, tétanos, syphilis et traumatisme.* Par le Dr. A. VERNEUIL, Membre de l'institut, professeur de clinique chirurgicale à la faculté de médecine de Paris, etc. Paris: G. Masson, 1888. Pp. 111–897. ["Mémoires de chirurgie," tome cinquième.]

THIS book is a collection of essays and theses written at different times by Professor Verneuil and certain of his students. It is of interest and value, as such collections often are, showing not only the work of the master himself, but also the influence of his mind upon his students.

The first paper, "Les petits prophètes de la chirurgie," read in 1859 before the *Société de chirurgie*, is a very pleasant literary effort, but is of no special value. It is laudatory of the lesser lights of surgery as opposed to the greater lights, exemplified by Guy de Chauliac, Paré, Dupuytren, and others.

The two following articles on concussion and contusion are taken from the "Dictionnaire encyclopédique des sciences médicales." Each article is written with great care. Concussion is defined as a "series of phenomena more or less sudden following a mechanical shock to the anatomical elements, tissues, or organs, characterized by temporary excitement or depression of the properties, usages, or functions of the shaken parts, and provoking anatomical changes resembling those which are observed normally in the successive phases of functional activity and repose." Considerable space is given to the pathological physiology and anatomy as well as to the complications, diagnosis, and prognosis. Visceral concussion receives a separate consideration. Contusion is defined as a "traumatic lesion in which the distinction is made by pressure and the accompanying attrition at the point of lesion." The article follows the bruise in all its varieties and complications from its inception to its final changes. In treatment, rest is considered to be of the chief importance, and the value of cold, continuous irrigation, massage, and pressure, as well as antiphlogistics, emollients, and narcotics when required, is spoken highly of.

Persistent vomiting after surgical operations is the subject of the next essay, reprinted from the "Bulletins et mémoires de la Société de chirurgie," 1878, p. 550. Nine cases are cited, from which it is concluded the certain pathological states, such as dyspepsia and abdominal, hepatic, and renal lesions, act as predisposing causes, while the traumatism serves as the exciting cause. If long continued, the prognosis is grave.

Tetanus receives a very extended notice. Cases are cited and various forms of treatment are discussed both by Dr. Verneuil and by Dr. Soubise, whose thesis on the pathogeny of tetanus and its treatment with chloral is very thorough and creditable.

The rest of the work is composed mainly of essays and theses by several students of Dr. Verneuil's. The most notable ones are by Dr. Petit, on syphilis and traumatism; by Dr. Ozenne, on cancer and syphilis; and by Dr. Ramonat, on syphilis and scrofula. Dr. Ozenne's thesis on cancer and syphilis occupies ninety pages and is based on sixty-seven cases each given in detail. It deals particularly with the combined lesion as found in the buccal cavity. The diagnosis is admitted to be very difficult in some cases, and the prognosis is not good. The treatment advocated is antisyphilitic so long as benefit is obtained, and then radical extirpation of the growth. Throughout all these writings one seems to detect the master's guiding hand. There is the same style of thought and there is the same orderly, scientific system running through all, showing the strong impression the writers have received from the mind of their teacher.

## GENERAL LITERARY NOTES.

AMONG recent foreign publications we note the following:

F. ALCAN, Paris.—Evariste Thévenin and H. de Varigny, "Dictionnaire abrégé des sciences physiques et naturelles."

J. B. BAILLIÈRE ET FILS, Paris.—C. Vieillard, "Étude chimique de la goutte et son traitement par le vin Duflot."

JULES CÉAS ET FILS, Paris.—G. Robert, "Étude sur la médication chlorlydro-pepsique dans les dyspepsies gastro-intestinales."

JULES DELORME, Paris.—A. Judet, "De l'emploi thérapeutique de la peptone phosphatée dans la tuberculose et les maladies de consomption."

O. DOIN, Paris.—M. Segrain, "Hérédité et alcoolisme." (7*fr.*) —— "Annuaire de thérapeutique. 1. année." (2*fr.*) —— A. Auvard, "Traitement de l'éclampsie puerpérale." (3*fr.*) —— Charlier, "Traitement spécifique de la phthisie pulmonaire par le cuivre." (1*fr.* 75.)

HENRI GEORG, Lyons.—E. Clément, "Ethnographie—Démographie—Sol—Topographie—Climatologie."

MULLER, Paris.—Albert Blondel, "Étude physiologique sur l'albuminate de fer soluble."

LECROSNIER ET BABÉ, Paris.—"Traité de pathologie chirurgicale spéciale." Vol. ii, 1st fascic. (7*fr.*) —— G. Thermes, "Traité élémentaire d'hygiène et de thérapeutique de l'hystérie." (6*fr.*) —— J. Renaut, "Traité d'histologie pratique." Vol. i, 1st fascic. (7*fr.*) —— Alfred Fournier, "Leçons sur la syphilis vaccinale." (6*fr.*) —— Serrez, "De l'ulcère simple de l'œsophage." (2*fr.* 50.) —— Combemale, "La descendance des alcooliques." (3*fr.* 50.) —— Auvard and Secheyron, "L'hypnotisme et la suggestion en obstétrique." (2*fr.*) —— Dupain, "Étude clinique sur le délire réligieux." (5*fr.*) —— Émile Goubert, "Nouveau traitement de l'épilepsie, sa guérison possible." (0*fr.* 75.) —— L. de Wecker and E. Landolt, "Traité complet d'ophthalmologie." Vol. iv, 3d fascic. —— A. Ducamp, "Des manifestations ophthalmoscopiques de la méningite tuberculose." (2*fr.* 50.) —— A. Fournier, "Leçons sur la syphilis vaccinale, recueillies par le Dr. P. Portalier." (6*fr.*) —— J. Renaut, "Traité d'histologie pratique." 1st fascic. (7*fr.*) —— L. de Séré, "La virilité et l'âge critique chez l'homme et chez la femme." (2*fr.*) —— P. Sérieux, "Recherches cliniques sur les anomalies de l'instinct sexuel." (2*fr.*)

G. Masson, Paris.—Duboué (de Pau), "Les indications à suivre dans le traitement préventif et curatif du choléra asiatique."

Bureau du Progrès medical, Paris.—Blanche A. Edwards, "De l'hémiplégie dans quelques affections nerveuses." (5*fr.*) —— J. Charcot, "Maladies des poumons et du système vasculaire." (15*fr.*) —— Bourneville, Sollier, Pilliet, Raoult, and Bricon, "Recherches cliniques et thérapeutiques sur l'épilepsie, l'hystérie et l'idiotie." (5*fr.*) —— Lejars, "L'enseignement de la chirurgie et de l'anatomie dans les universités de langue allemande." (2*fr.*) —— W. Roth, "Contribution à l'étude symptomatologique de la gliomatose médullaire." (4*fr.*) —— Chambard, "Dermoneurose stéréographique et érythrasma chez un imbécile alcoolique." (0*fr.* 50.) —— H. Piot, "De la formation de la bosse séro-sanguine chez les fœtus morts." (1*fr.* 70.)

G. Steinheil, Paris.—Legendre, Barette, and Lepage, "Traité pratique d'antisepsie appliquée à la thérapeutique et à l'hygiène," vol. i, parts 3 and 4. —— F. Lejars, "La masse de Teichmann." —— P. Daurios, Étude clinique et traitement chirurgicale de la tuberculose génitale chez la femme." —— J. Uffelmann, "Traité pratique d'hygiène de l'enfance." —— H. Hartmann, "Des névralgies vésicales." (4*fr.*)

A. Storck, Lyons.—J. P. Henry Contagne, "La folie au point de vue judiciaire et administratif."

Ambrose Abel, Leipzig.—A. Krüche, "Specielle Chirurgie. (6*M.*)

Braumüller, Vienna.—J. Hyrtl, "Lehrbuch der Anatomie des Menschen." (15*M.*) —— J. Schnitzler, "Zur Frage der endolaryngealen Behandlung des Kehlkopfkrebses." (0*M.* 40.) —— "Sitzungs-Berichte der geburtshilflich-gynäkologischen Gesellschaft in Wien. 1889." (5*M.*) —— J. Steinbach, "Zur Frage der fakultativen Sterilität. (1*M.*) —— "Ärztlicher Bericht des k. k. allgemeinen Krankenhauses zu Wien vom Jahre 1887." (5*M.*) —— "Bericht der k. k. Krankenanstalt Rudolph-Stiftung in Wien vom Jahre 1887." (4*M.*) —— M. Brilliant, "Statistischer Sanitäts-Bericht über die k. k. Kriegs-Marine für das Jahr 1887." (3*M.*)

F. A. Brockhaus, Leipsic.—"Internationale wissenschaftliche Bibliothek." Vols. xii and lxvii. Vol. xii, by A. Bernstein, "Die fünf Sinne des Menschen," 2. Aufl.—Vol. lxvii, by Sir J. Lubbock, "Die Sinne und das geistige Leben der Thiere, insbesondere der Insekten." (4*M.*)

Ferdinand Enke, Stuttgart.—E. Baierlacher, "Die Suggestions-Therapie und ihre Technik." (1*M.* 20.)

Heuser, Neuwied. — O. v. Herff, "Beiträge zur Galaktorrhöe. Über das Verhalten der Milchsekretion bei einem Falle von Galaktorrhœa paradoxa." (12*M.*)

August Hirschwald, Berlin.—E. Gurlt, "Leitfaden für Operationsübungen am Kadaver und deren Verwertung beim lebenden Menschen." 7. Aufl. (4*M.*) —— P. Guttmann, "Lehrbuch der klinischen Untersuchungsmethoden für die Brust- und Unterleibs-Organe mit Einschluss der Larnyoskopie." 7. Aufl. (10*M.*) —— Brock, Liebreich, and Mendel, "Veröffentlichungen der Gesellschaft für Heilkunde in Berlin." (3*M.*)

Wilhelm Ifsleib, Berlin.—D. Spohr, "Die Behandlung von Wunden nach den Grundsätzen der Naturheilkunde." (1*M.*)

Lipsius & Tischer, Kiel.—P. Meyer, "Zwei Fälle von metastasischer Hauttuberkulose." (0*M.* 80.) —— A. Mueller, "Brillengläser und Hornhautlinsen." (0*M.* 80.) —— F. Otto, "Ueber bandförmige Hornhauttrübung." (0*M.* 80.) —— W. König, "Ein Fall von Pankreas-Nekrose nach Blutung und Fettnekrose." (0*M.* 80.)

J. C. B. Mohr, Freiburg.—P. Kraske, "Der Unterricht in der chirurgischen Klinik und die antiseptische Wundbehandlung." (1*M.* 60.)

G. Reimer, Berlin.—H. Laehr, "Gedenktage der Psychiatrie und ihrer Hilfsdisciplinen in allen Länden." 3. Aufl. (4*M.*)

Gazzetta degli Ospitali, Milan.—L. M. Bossi, "Due cisti ovariche dermoidi." —— L. M. Bossi, "Criteri e mezzi utili per stabilire la diagnosi di gravidanza estranterina." —— Alfredo Angias, "La Scarlattina."

F. C. W. Vogel, Leipsic.—"Jahresbericht, 19. Des Landes-Medicinal-Kollegiums über das Medicinalwesen im Königreich Sachsen auf das Jahr 1887." (4*M.*)

Filippo Olari, Naples.—Eugenio Fazio, "Trattato d'igiene." 2d ed. (24*l.*)

Francesco Vallardi, Milan.—Filippi, Severi, and Montali, "Manuale di medicina legale conforme al nuovo codice penale." Fasc. 5 and 6. (2*l.*) —— C. Sappey, "Trattato di anatomia descrittiva." 2d ed., vol. ii. (80*l.*) —— Guglielmo Morghen, "Diagnosi e trattamento delle lacerazioni dell' uretra maschile." —— Pasquale Vicenti, "Note di igiene navale."

Nordin & Josephson, Stockholm.—E. Kleen, "Handbok i massage." (1*kr.* 50.)

Alvarez & Ca, Havana.—D. Emilio Martinez y Martinez, "Curabilidad del Íctero Grave Primitivo."

## BOOKS AND PAMPHLETS RECEIVED.

Psychology as a Natural Science applied to the Solution of Occult Psychic Phenomena. By C. G. Raue, M. D. Philadelphia: Porter & Coates, 1889. Pp. 8–9 to 541.

Materia Medica and Therapeutics, for Physicians and Students. By John B. Biddle, M. D., late Professor of Materia Medica and General Therapeutics in the Jefferson Medical College. Eleventh Edition, revised and enlarged, with Special Reference to Therapeutics and to the Physiological Action of Medicines. By Clement Biddle, M. D., U. S. Navy, and Henry Morris, M. D., Fellow of the College of Physicians of Philadelphia, etc. With numerous Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. xix–33 to 607. [Price, $4.25.]

Transactions of the American Association of Obstetricians and Gynæcologists. Vol. I. For the Year 1888. Philadelphia: W. J. Dornan, 1888. Pp. xxxviii–347.

The Diagnosis and Treatment of Extra-uterine Pregnancy. By John Strahan, M. D., M. Ch., M. A. O. (Royal University of Ireland), etc. Jenks Prize Essay of the College of Physicians of Philadelphia. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. 134. [Price, $1.50.]

A Manual of Diseases of the Ear, for the Use of Students and Practitioners of Medicine. By Albert H. Buck, M. D., Clinical Professor of the Diseases of the Ear in the College of Physicians and Surgeons, New York, etc. New York: William Wood & Co., 1889. Pp. ix–420. [Price, $2.50.]

A Clinical Atlas of Venereal and Skin Diseases, including Diagnosis, Prognosis, and Treatment. By Robert W. Taylor, A. M., M. D., Surgeon to Charity Hospital, New York, and to the Department of Venereal and Skin Diseases of the New York Hospital, late President of the American Dermatological Association. Illustrated with One Hundred and Ninety-two Figures, many of them Life Size, on Fifty-eight beautifully colored Plates. Also many Large and carefully-executed Engravings through the Text. Parts V and VI. Diseases of the Skin. Philadelphia: Lea Brothers & Co., 1889.

American Resorts, with Notes upon their Climate. By Bushrod W. James, A. M., M. D., Member of the American Association for the Advancement of Science, etc. With a Translation from the German by Mr. S. Kauffmann of those chapters of "Die Klimate der Erde," written by Dr. A. Woeikof, of St. Petersburg, Russia, that relate to North and South America and the Islands and Oceans Contiguous Thereto. Intended for Invalids and those who desire to preserve Good Health in a Suitable Climate. Philadelphia and London: F. A. Davis, 1889. Pp. 8–9 to 285. [Price, $2.]

Electro-therapeutics, or Electricity in its Relation to Medicine and Surgery. By William Harvey King, Electro-therapeutist to the Hahnemann Hospital, New York, etc. New York: A. L. Chatterton & Co., 1889. Pp. vii–13 to 153.

Diabetes: its Cause and Permanent Cure. From the Standpoint of Experience and Scientific Investigation. By Emil Schnée, M. D., Consulting Physician at Carlsbad, etc. Translated from the German by R. L. Tafel, A. M., Ph. D. English Edition, revised and enlarged by the Author. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. xv–215. [Price, $2.]

Physiological Notes on Primary Education and the Study of Language. By Mary Putnam Jacobi, M. D. New York and London: G. P. Putnam's Sons, 1889. Pp. 120. [Price, $1.]

Leprosy: an Imperial Danger. By H. P. Wright, M. A., Rector of Greatham, Hants, etc. London: J. & A. Churchill, 1889. Pp. ix–127.

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Pulmonary Tuberculosis, its Ætiology, Symptomatology, and Therapeutics. By Professor Dr. H. von Ziemssen. Translated by David J. Doherty, A. M., M. D. Detroit: George S. Davis, 1888. Pp. 118. [The Physician's Leisure Library.]

Contribution à l'étude des syphilis graves précoces. Formes—fréquence—étiologie—pronostic. Par le Dr. Georges Baudouin, ancien interne des hôpitaux de Paris et de l'hôpital Saint Louis. Paris: G. Steinheil, 1889. Pp. 5 to 212.

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Sprains: their Consequences and Treatment. By C. W. Mansell Moullin, M. A., M. D. Oxon. [Wood's Medical and Surgical Monographs.]

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Eleventh Annual Report of the State Board of Health of the State of Connecticut, for the Year ending November 30, 1888. With the Registration Report for 1887, relating to Births, Marriages, Deaths, and Divorces. Printed by Order of the Legislature.

Ninth Annual Report of the State Board of Health of Illinois. With an Appendix embracing Report on the State Sanitary Survey, Vital Statistics of Illinois and Coroners' Inquests, Meteorological Tables, Report on State Medicine in 1886.

On Myoma and Fibro-myoma of the Uterus and Allied Tumors of the Ovary. By Alban Doran. [Reprinted from the "Transactions of the Obstetrical Society of London."]

Further Contribution to the Study of Consumption among the Indians. By Washington Matthews, M. D., LL. D., United States Army. [Reprinted from the "Transactions of the American Climatological Association."]

A Contribution to the Study of Muscular Tremor. By Frederick Peterson, M. D. [Reprinted from the "Journal of Nervous and Mental Disease."]

Alcoholism and Pulmonary Consumption. By Thomas J. Mays, M. D. [Reprinted from the "Journal of Inebriety."]

Scarlatinous Otitis. By Charles H. May, M. D. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

The Question of Relationship between Lichen Planus (Wilson) and Lichen Rubra (Hebra). By A. R. Robinson, M. B., L. R. C. P. and S. Edin. [Reprinted from the "Journal of Cutaneous and Genito-urinary Diseases."]

Third Annual Report of the Allegheny General Hospital, Allegheny City, Pa. Charter, Rules, and Regulations.

Report of the Central Park Menagerie.

Water Supplies of Illinois and the Pollution of its Streams. By John H. Rauch, M. D. [Preliminary Report of the Illinois State Board of Health.]

Address on Medicine—Medical New York in 1800. By John Shrady, M. D. [Reprinted from the "Transactions of the New York State Medical Association."]

Clinical Lecture on Intubation of the Larynx. By F. E. Waxham, M. D., Chicago. [Reprinted from the "North American Practitioner."]

Treatment of Glycosuria. By Charles W. Purdy, M. D., of Chicago, Ill. [Reprinted from the "Journal of the American Medical Association."]

Stomach-washing in Infants, with a Demonstration on the Living Subject. By A. Seibert, M. D. [Reprinted from the "Archives of Pædiatrics."]

The Control and Care of Pauper Inebriates of Towns and Cities. By Lewis D. Mason, M. D., Fort Hamilton, N. Y. [Reprinted from the "Journal of Inebriety."]

The Significance and Detection of Traces of Sugar in the Urine, with some Reference to Life Insurance. By George B. Fowler, M. D. [Reprinted from the "Dietetic Gazette."]

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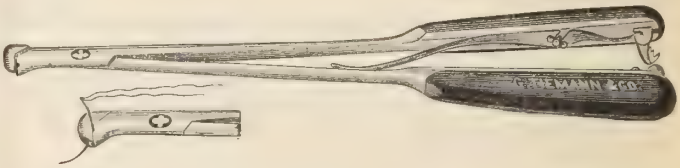
## New Inventions, etc.

### A NEW NEEDLE-HOLDER FOR ALL KINDS OF NEEDLES.*

By W. W. Van Arsdale, M. D.,
INSTRUCTOR IN SURGERY, NEW YORK POLYCLINIC; ATTENDING SURGEON, EASTERN DISPENSARY.

The jaws of the needle-holder represented in the accompanying cut work on the principle of Dr. G. R. Fowler's instrument, of Brooklyn. They are made smaller, however, so as to facilitate the application of buried sutures in small wounds, and, the joint being a French lock, straight needles can be retained in proper position by being placed behind the transverse portion of the jaws against the longitudinal surfaces of the shafts. While the needle-holder, therefore, is especially intended for use with the Hagedorn needles, which are every day becoming more popular, it can be used equally well for straight needles, for needles partly or wholly curved on the flat, and for perfectly round needles.



In placing the flat Hagedorn needles in position the same precaution should be taken as in the Hagedorn needle-holder proper—namely, that of placing the portion of the needle which bears the eye in contact with the right side of the shaft of the instrument. (In the cut the needle is figured placed somewhat similarly on the left side.) The point of the needle should emerge at the point of the beak of the instrument. This position allows of greater freedom of scope and of easier rotation of the handles. The present instrument holds even the smallest flat needles so firmly, however, that this point of position need not be insisted upon, as is the case with Professor Hagedorn's holder, which is frequently too weak in its action.

The shafts are sufficiently long to permit of placing sutures inside of cavities, though not too long to preclude delicate work in plastic operations. The instrument can be used for ophthalmic work, as small needles curved on the flat and held between the transverse portion of the jaws can be closely approximated to the organ. The whole instrument is about seven inches in length in the present model. For use with the very largest flat needles made, it should be one or two sizes larger, the present one being intended for general use.

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* Presented before the Section in Surgery of the New York Academy of Medicine, April, 1889.

The handles are made of vulcanized rubber conveniently fashioned to fit the hand, and can be made of any desired size to suit the operator. The posterior one is smaller than the anterior one, in order to facilitate rotation in suturing with curved needles; moreover, it is flattened on the surface, so that one can tell the position of the holder in the hand by the feel of it alone.

The catch consists of a tongue provided with three angular ratchet-teeth, which fit into two retaining side-bars in the opposite handle. When the first tooth is caught, the needle placed between the jaws is held moderately firm, and very firmly indeed when the second tooth operates; the third tooth, however, releases the catch by allowing the tongue to pass between the bars, and the instrument opens, releasing the needle. The action of the catch is in some sort automatic. By closing the handles of the instrument after placing the needle in position the blades become locked and remain so until the needle is passed, when simple further pressure upon the handles releases the needle, thus doing away with all difficult thumb movements necessary to release the needles in most other holders. In many holders the needle can only be released if the catch happens to be opposite the thumb of the operator; the present instrument can be readily opened in every position, even when held upside down.

The advantages of having a catch of some kind on a needle-holder are that an assistant can hand the instrument to the operator without danger of the needle's falling out, and that when operating without assistance the needle placed beforehand in the jaws will be retained in the proper position till the instrument is used. If, however, the operator prefers to hold the needle in the forceps uncaught while passing the sutures, he need only free the catch by pressure before passing the needle, and can then manipulate the instrument in the same manner as if it had no catch.

The instrument is a so-called antiseptic one. It can be instantly taken apart for cleaning. The blades readily come apart by means of the French lock. The two springs which open the blades and work the ratchet-tongue, respectively, are made in one piece and can be slid laterally out of the pivot-head which retains them. The tongue is moored in cannon-bearings provided with side-slots, from which it is easily disengaged after removal of the spring.

The hard-rubber handles are vulcanized on while the steel is still hot, and the whole is afterward finished in one piece, presenting perfectly smooth surfaces. Even the name of the maker does not cause any unevenness of the surface, being made of metal and sunk into the handle so as to permit of a perfect finish, while remaining visible to the eye. The instrument is manufactured by the firm of George Tiemann & Co., of New York, and has proved very satisfactory to me and others, good workmanship being essential to its successful use.

207 West Fifty-sixth Street.

## Miscellany.

**The State Medical Society of Indiana** held its fortieth annual meeting in Indianapolis on the 1st and 2d inst. An interesting paper on *Myxœdema* was read by Dr. James F. Hibberd, of Richmond, who gave a report of a case under his care, and went extensively into the literature of the disease.

Dr. G. W. Kemper, of Muncie, read on *Antiseptics in Normal Labor*. His experience in nine hundred cases of labor had taught him that antiseptics were uncalled for in cases where the patient was surrounded by wholesome environments, and he thought the complicated routine of the paraphernalia and details of antiseptic midwifery would be tiresome, expensive, and unnecessary.

*The President's Address* was delivered by Dr. W. H. Wishard, of Indianapolis. It comprised a retrospect of the practice of medicine for the past half century. He considered this period one of great progress in science as well as other things. The great thing was, Had medical men kept abreast with the times? He endeavored to make his answer convincingly in the affirmative. The primitive Indiana doctors had not had great advantages of education. In 1817 the Transylvania University, at Lexington, Ky., opened a medical department, and in 1818 John L. McCulloch was the first graduate in medicine west of the Alleghanies. This soon grew to be the second medical school of the United States. In 1819 the Medical College of Ohio, at Cincinnati, and in 1837 the Medical Department of the University of Louisville, were formed. Not ten per cent. of the physicians of Indiana in 1825 were graduates, and only twenty to twenty-five had taken one course in medicine. Ephraim McDowell was not a graduate, but after thirty years of practice the University of Maryland gave him the honorary degree of doctor of medicine. There was but one medical journal in the United States in the early part of this century, the "Medical Repository," of Philadelphia. Obstetric business was all in the hands of females. It was necessary; physicians were scarce, women were healthy, and nature needed but little aid. A confinement was quite an event among the women. Not to be invited was a great slight. The physicians were looked upon with suspicion in this line of practice, and were not summoned unless there was great necessity. When one was summoned, the news spread like wildfire, and the neighborhood turned out *en masse*, as though it was a funeral or a wedding. A log cabin 12 by 14 would be literally packed with women and children, with sometimes a few men. The early settlers were almost exempt from tuberculosis, diphtheria, and cerebro-spinal meningitis. Only the strong and healthy ventured to the front. In winter, pleurisy and pneumonia raged. The doctor was a dealer in second-hand goods. Four fifths of the fatal cases had been treated by the old women till the case was hopeless. He well remembered when quinine first came into use. He was given a mixture of thirty grains of quinine, ten drops of dilute sulphuric acid, and six ounces of water; a teaspoonful to be taken three times a day with great care. He had known an old thumb lancet to descend as an heir-loom from father to son and grandson, and to have drawn more blood than some regiments in the late war. An old theory was that, if one drew blood from the right arm when the pain was in the left, it would "draw the pain across the heart" and kill the patient. The curtain was first lifted in the treatment of fevers by Dr. Lunsford P. Yandell, of Louisville, and the light had been shining more and more ever since. The domain of surgery had made wonderful progress in the last fifty years. The good dame of fifty years ago would show her ten or twelve sons and daughters, the pride of her life, the hope of her future. To-day we were shown one son or daughter and—a poodle dog, often only the poodle dog—all the hope of a family. The speaker then made some scathing remarks about criminal abortion.

Dr. King, of Indianapolis, related the incident of his father and mother both dying within seven minutes of each other, from being bled forty years ago only a few miles from Indianapolis.

Dr. Leech, of Indianapolis, spoke on *Criminal Abortion*, and told an interesting story of how he had saved two twin girl-babies, and of what pleasure he had since derived from seeing them playing on the hillside as he drove past their home.

The *secretary's report* showed a gain of six county societies and seventy members over last year. The mortality list was not a long one, but it included the names of two ex-presidents, Dr. W. H. Field and Dr. Benjamin Newland, also those of Dr. Moses Baker, of Stockwell, the first surgeon in Indiana to perform ovariotomy; and Dr. Mary Thomas, of Richmond, the first female doctor to become a member of the society. About eighty out of the one hundred counties in the State had county societies, and all their members were members of the State society.

Dr. Kate Corey, a graduate of Michigan University and superintendent of the Methodist Hospital at Foochow, China, was introduced to the meeting, and made a brief speech. The story of her great work was related by the secretary, and a motion to make her an honorary member was passed without a dissenting voice.

Dr. E. S. McKee, of Cincinnati, was introduced as a delegate from the Ohio State Society.

Officers for the ensuing year were elected as follows: Dr. J. D. Gatch, of Lawrenceburg, president; Dr. S. T. Yonte, of Lafayette, vice-president; Dr. E. S. Elder, of Indianapolis, secretary; Dr. T. C. Kennedy, of Shelbyville, assistant secretary; and Dr. F. C. Ferguson, of Indianapolis, treasurer.

**The New York Academy of Medicine.**—At the next meeting of the Section in Ophthalmology and Otology, on Monday evening, May 20th, Dr. E. Gruening will open a discussion on "Glaucoma," to be continued by Dr. H. D. Noyes, Dr. H. Knapp, Dr. C. J. Kipp, Dr. R. H. Derby, Dr. C. S. Bull, Dr. J. S. Prout, Dr. D. Webster, Dr. A. Mathewson, Dr. T. R. Pooley, and others.

At the next meeting of the Section in Laryngology and Rhinology, on Tuesday evening, May 28th, a demonstration will be given of "The Case of Plastic Operation for [the Formation of an] Artificial Nose," performed by the late Dr. T. T. Sabine; Dr. O. B. Douglas will read a paper on "Electricity supplied by the Edison Dynamo in place of the Galvanic Cell for all Medical Purposes"; and Dr. Charles H. Knight will read a paper on "The Diagnosis and Treatment of certain Forms of Rhinitis," to be discussed by Dr. M. J. Asch, Dr. Beverley Robinson, Dr. O. B. Douglas, and others.

**Ex-internes of Bellevue Hospital.**—The Society of the Alumni of Bellevue Hospital is actively engaged in the preparation of a catalogue of its members, both living and dead, with the aim of printing as full and complete biographical information as possible. The first edition was issued from the Bellevue press in 1873, covering a period of twenty-three years; it was a pamphlet of thirty-five pages and has virtually been out of print several years. The circular of inquiry sent out by the Catalogue Committee and signed by Dr. R. J. Carlisle, of New York, invites the co-operation of every house-staff since 1850. It was in 1849 that the system of competitive examinations for positions began, and it took effect on January 1, 1850. Of the staff of 1850, according to the first catalogue, Surgeon-General John Moore and Assistant Surgeon-General Charles Page, of the army, were members, also Dr. Stephen Smith; eight others are known to be deceased. Two of the latter were victims of the ship-fever epidemic of 1851, before the expiration of their term of service, Gridley and Ravenhill; and their names appear among those of the fourteen "martyrs of humanity," in memory of whom the tablet of the College of Physicians and Surgeons was erected about 1853 by the faculty of that college. The tablet recites that these fourteen died of pestilential disease while serving in the public hospitals of New York, and "that, taught by their example," the graduates of the college must "never hesitate to hazard life in the performance of professional duty." It would be fitting if the aims of this Catalogue Committee could be so extended as to include the names and sketches of as many of these heroic men as fell in those fever years from 1847 to 1853. If this is done, their catalogue will be a noble supplement to the tablet above mentioned, and will prove the most adequate record of the medical sacrifices made in those trying times, which are most worthy of being perpetuated upon the printed page. As a text and warrant for such a course, we quote from a paper written by Dr. Alonzo Clark, in 1853, a brief paragraph which shows how his large heart mourned over those devoted young medical men. "In that same year," he is writing of the year 1848, "another little body of soldiers might have been seen here at home, making defensive war against an invading enemy. One after another of that little band sunk mortally wounded on *their* field of battle; and when at length they were gathered to their graves, glory awoke no pæans for them. The public heart, cold as the earth which received their mortal remains, felt no pang. Alas! out of the desolated family circle—out of the profession that cherishes their memories—who was there to mourn for Snowden? Who was there to mourn for Graham, for Beals, Hutchinson, Porter, Van Beuren, Hedges, Blakeman, Calhoun, Worth, and Leonard? Yet these were among the men who stood between the living and the dead; these were the costly sacrifice, and yet not all the sacrifice, by which the fever pestilence was stayed." Dr. Clark draws a comparison at some length between the heroism of the soldier and that of the physician, to which we may refer at some future time, and closes with a statement that of the thirty assistant physicians on duty at Bellevue during the fever epidemic, twenty-one took the disease and five died; "yet their ranks were always full; and I speak from personal knowledge when I say that I know not where to look for a body of young men whose duty is performed with more conscientiousness and courage and intelligence."

Dr. Clark mentions eleven names of victims, six of which are on the college tablet as well; but Augustus Van Buren, with others, was the costly sacrifice from the young men of the New York University, while Gridley and Blakeman were from the school at Yale, both being sons of physicians eminent in Connecticut. From the two sources, nineteen names of the fallen are obtained, nearly all of whom got their death-blow on the battle-field at Bellevue. Curtiss, however, whose name is on the tablet, was stricken down while on duty at the Quarantine Station. There was a period, we must believe, between 1847 and 1853 when the Bellevue staff had some member down with the fever in an almost continuous series, some dying and some getting well, and "yet their ranks were always full." Let us have a record begun, at least, in regard to those gallant young men before it is forever too late.

The Catalogue Committee will welcome information with regard to Dr. Samuel H. Aitken, staff of '54; Dr. Timothy Babb, '59; Dr. Joseph Bluxome, '57; Dr. W. K. Cleveland, '62; Dr. T. H. Maddox, '55; Dr. Charles H. Suydam, '61; and Dr. Stuart White, '59.

**Medical Men in Fiction.**—In the first of a series of editorial articles with this title, the "British Medical Journal" says: "Passing by Chaucer's 'veray parfait practisour' who did not read his Bible, but 'loved gold in special,' and Shakespeare's 'starved apothecary' who for 'a consideration' sold Romeo poison, and advancing to the literature of the eighteenth century, we find that medical men, according to our popular literature, were very little esteemed. We find the three great humorists of that age, Sterne, Fielding, and Smollett (himself a medical man), agreeing in holding up to ridicule and reprobation the medical men they introduced into their pages.

"Dr. Slop, in 'Tristram Shandy,' is believed to be the caricature portrait of a celebrated York antiquarian physician of the day, but from the moment he appears on the scene he becomes a mark for satire and a butt for ridicule. 'Imagine to yourself,' says Sterne, 'a little, squat, uncouth figure of a Dr. Slop of about four feet and a half perpendicular height, with a breadth of back and sesquipedality of belly which might have done honour to a sergeant in the Life Guards.' He enters the room after a ridiculous adventure, all plastered with mud, and disappears from the book in an elegant scene where he bedaubs the maid with a cataplasm and in return receives something less pleasant in his own face, while his pedantry, professional and religious, his midwifery forceps, and his absurdities are the constant theme of Sterne's satire. Mr. Shandy may be philosophical, Uncle Toby benevolent, Corporal Trim pathetic, Yoric eloquent; Slop alone exhibits no redeeming quality on any occasion. In a certain passage of the same work Sterne draws a picture of what would happen if the world were turned topsy-turvy, and he says of the profession of medicine: 'In this corner of the picture you would see a son of the divine Æsculapius writing a book against predestination, or perhaps worse, feeling his patient's pulse, instead of his apothecary's, a brother of the faculty in the background upon his knees in tears, drawing the curtain of a mangled victim to beg his forgiveness, offering a fee instead of taking one.' To do Sterne justice, he never missed an opportunity of laughing at the profession. In his correspondence from France we find: 'My physicians have almost poisoned me with what they call *bouillons rafraichissants;* 'tis a cock flayed alive and boiled with poppy-seeds, then powdered in a mortar, afterwards passed through a sieve. Then there is to be one crawfish in it, and I am gravely told it must be a male one, a female would do me more hurt than good.'

"A Dr. Hill tells the following anecdote of Sterne, in the 'Royal Female Magazine' for 1760, and vouches for its truth: 'At the last dinner that the late, lost, amiable Charles Stanhope gave to genius, Yorick was present. The good old man was vexed to see a pedantic medicine-monger take the lead and prevent that pleasantry which good wit and good wine might have occasioned, by a discourse in the unintelligible jargon of the profession, concerning the difference between the phrenitis and the paraphrenitis, and the concomitant categories of the mediastinum and pleura. Good-humoured Yorick at once fell into the cant and jargon of physic as if he had been one of Radcliffe's disciples. "The vulgar practice," says he, "savours much of mechanical principles; the venerable Ancients were all empirics, and the profession will never regain its ancient credit till practice falls into the old track again. I am myself an instance; I caught cold in leaning on a damp cushion, and after sneezing and snivelling a fortnight, it fell into my breast. They blooded me, they blistered me, and gave me robs and bobs and lohocks and eglemata, but I grew worse, for I was treated according to the exact rules of the College. In short, from an inflammation it came to an adhesion and all was over with me. They advised me to Bristol that I might not do them the discredit of dying under their hands, and the Bristol people, for the same reason, consigned me over to Lisbon. But what do I? Why, I considered that an adhesion is in plain English only a sticking of two things together, and that force sufficient would pull them asunder. I bought a good ash pole and began leaping over all the walls and ditches in the country. From the height of the pole I used to come down *souse* upon my feet, like an ass when he tramples on a bulldog, but it did not do. At last, when I had raised myself perpendicularly over a wall, I used to fall exactly upon the ridge of it, on the side opposite to the adhesion. This tore it off at once and I am as you see. Come, fill a glass to the empirick medicine!"'

"It might have been hoped that Smollett, himself a physician, would have dealt more gently with his own profession, but, since his medical characters have less of burlesque and more of pure caricature in them, he almost treats us worse than Sterne did. It is true that Roderick Random, one of his heroes, was a surgeon-apothecary, but in one part of his career he was also a footman, and he seems to have abandoned both occupations with equal alacrity when his hour of fortune struck. Smollett describes Crab and Potion—country practitioners of the day—as villainous compounds of the rogue, the drunkard, and the shopkeeper, and Potion, who turned Random out of doors to become the slave of the more worthless Crab, is a portrait of Smollett's own master, John Gordon, a Glasgow apothecary, while Crab is the likeness of the master of a friend.

"The description of Lavement, the French apothecary in London, is little more flattering. This, for instance, was his method of compounding a prescription. 'He had a great deal of business, but, as he was mostly employed amongst his fellow refugees, the profits were small. However, his expense for medicine was not great, for he was the most expert man at a substitute of any apothecary in London, so that Random was sometimes amazed to see him make up a physician's prescription, without the least hesitation, though he had not in the shop one drug mentioned in it. Oyster shells he could invent into crab's eyes, common oil into oil of sweet almonds, syrup of sugar into balsamic syrup, Thames water into aqua cinnamomi, turpentine into capivy, and a hundred more costly preparations were produced at a moment's notice from the cheapest and coarsest drugs in the materia medica, and whenever any common thing was ordered for a patient by himself, he always took care that it should be disguised in colour or taste, or both, in such a manner that it could not be possibly recognized.'

"Random's account of his examination for the diploma of surgeon's mate at the Surgeons' Hall has a double interest for us, first as casting a strong light on the character of the examinations of the time, secondly, as regards an almost contemporary entry in the books of the college. According to the chronology of the novel, Random's examination would take place about 1740, the scene being written about eight years later. Ten years after, 'at a court of examiners held at the theatre 21st December, 1758, James Bernard [was found qualified as] a mate to a hospital. Oliver Goldsmith, found not qualified for ditto.' But gentle Goldsmith had no stone to throw; in all his works no word of satire or blame for his profession can be found. It is the successful Smollett, not the rejected Goldsmith, who loads the Company of Surgeons with such ridicule.

"There is one other of Smollett's characters who requires passing notice, the physician with whom Peregrine Pickle makes acquaintance in Paris, and who provides his fellow travelers with a classical feast. This man, with his pedantry, his ignorance, and his ill manners, is believed to be a portrait of Dr. Akenside, the then popular poet-physician, and it is probable, from Lettsom's description of him, that the portrait is not ill drawn.

"Fielding has only incidental allusions to medical men, and those not of the most flattering description. When Joseph Andrews, wounded, stripped, and half dead, is conveyed to an inn, the local surgeon is summoned. Thinking that some gentleman or lady has been hurt, this worthy is half dressed, when a maid from the inn again rings his bell to hasten his movements. 'When the wench had informed him at his window that it was a poor foot passenger who had been stripped of all he possessed and half murdered, he chid her for disturbing him so early, slipped off his clothes again, and very quietly returned to bed and to sleep.'"

**Pachydermia Cretinoides.**—"Professor Amalio Gimeno, of Madrid, describes and figures in 'La Medicina Practica,' a new Spanish medical journal, a case of myxœdema or cachexia pachydermica. The patient is a typical cretin, and presents a swollen condition of the head, trunk, and extremities, which it is impossible to confound with cardiac or nephritic œdema, or with elephantiasis or scleroderma. Professor Gimeno seems inclined to think this disease may have some relation to beri-beri, and remarks upon its occurrence in the person of a cretin. Is it possible, he asks, that there is any relationship between cachexia pachydermica and cretinism? It is upon the supposition that the two conditions are, in the patient alluded to, in some degree connected that he has suggested the name 'pachydermia cretinoides.'"—*Lancet.*

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending May 10th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y. | May 4. | 1,564,324 | 731 | .. | .. | .. | .. | .. | .. | 2 | 34 | 56 | 20 | .... |
| Philadelphia, Pa. | May 4. | 1,040,245 | 402 | .. | .. | .. | .. | .. | .. | 10 | 9 | 7 | 5 | 5 |
| Brooklyn, N. Y. | May 4. | 821,555 | 333 | .. | .. | .. | .. | .. | .. | 1 | 8 | 27 | 3 | 3 |
| Baltimore, Md. | May 4. | 500,343 | 152 | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 | .. | .... |
| Cincinnati, Ohio. | May 4. | 325,000 | 85 | .. | .. | .. | .. | .. | .. | 2 | 1 | 3 | 1 | .... |
| New Orleans, La. | April 27. | 254,000 | 104 | .. | .. | .. | .. | .. | .. | .. | .. | 6 | .. | .... |
| San Francisco, Cal. | April 26. | 330,000 | 117 | .. | .. | .. | .. | .. | .. | 4 | .. | 2 | .. | .. |
| Pittsburgh, Pa. | May 4. | 230,000 | 60 | .. | .. | .. | .. | .. | .. | .. | 2 | .. | 1 | .... |
| Detroit, Mich. | April 27. | 230,000 | 57 | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .... |
| Detroit, Mich. | May 4. | 230,000 | 46 | .. | .. | .. | .. | .. | .. | .. | 1 | 4 | .. | .... |
| Louisville, Ky. | April 27. | 227,000 | 66 | .. | .. | .. | .. | .. | .. | 2 | .. | 1 | .. | .... |
| Louisville, Ky. | May 4. | 227,000 | 72 | .. | .. | .. | .. | 1 | . | 4 | .. | .. | 3 | 3 |
| Milwaukee, Wis. | May 4. | 210,000 | 50 | .. | .. | .. | .. | .. | .. | 2 | 3 | 3 | . | .... |
| Minneapolis, Minn. | April 27. | 200,000 | 35 | .. | .. | .. | .. | .. | .. | 2 | 1 | 2 | .. | 1 |
| Newark, N. J. | April 30. | 181,351 | 79 | .. | .. | .. | .. | .. | .. | 3 | .. | 6 | .. | 1 |
| Kansas City, Mo. | May 4. | 180,000 | 42 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Providence, R. I. | April 27. | 127,000 | 50 | .. | .. | .. | .. | .. | .. | 6 | 2 | 1 | .. | .... |
| Providence, R. I. | May 4. | 127,000 | 40 | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | .. | .... |
| Rochester, N. Y. | May 4. | 120,000 | 35 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Richmond, Va. | May 6. | 100,000 | 39 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Denver, Col. | May 3. | 100,000 | 27 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | 1 | .... |
| Toledo, Ohio | May 3. | 83,500 | 17 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Nashville, Tenn. | May 4. | 65,153 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Fall River, Mass. | May 4. | 65,000 | 27 | .. | .. | .. | .. | .. | .. | 2 | 2 | 1 | .. | ... |
| Lynn, Mass. | May 4. | 50,000 | 16 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .... |
| Charleston, S. C. | May 4. | 60,145 | 26 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Manchester, N. H. | April 27. | 42,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me | May 4. | 42,000 | 14 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Galveston, Texas | April 26. | 40,000 | 14 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Council Bluffs, Ia. | April 27. | 35,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa. | April 27. | 30,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Binghamton, N. Y. | May 6. | 30,000 | 8 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Auburn, N. Y. | April 4. | 26,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass. | April 27. | 25,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .... |
| Haverhill, Mass. | May 4. | 25,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Newport, R. I. | May 2. | 22,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newton, Mass. | May 4. | 21,553 | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Keokuk, Iowa | May 4. | 16,000 | 8 | .. | .. | .. | .. | .. | .. | 8 | .. | .. | 1 | .... |
| Pensacola, Fla. | April 27. | 15,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Pensacola, Fla. | May 4. | 15,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**The American Association of Genito-urinary Surgeons** will hold its third annual meeting at the Aquidneck House, Newport, R. I., on Tuesday and Wednesday, May 21st and 22d. The programme includes the following:

An Address of Welcome, by the president, Dr. Robert W. Taylor, of New York; a discussion on the "Question of the Radical Cure of Deep Urethral Stricture," by Dr. Edward L. Keyes, of New York, Dr. John P. Bryson, of St. Louis, Dr. Robert W. Taylor, of New York, Dr. Robert F. Weir, of New York, Dr. A. W. Stein, of New York, and others; a paper entitled "The Essential Factor in the Ætiology of Stricture, and its Bearing on the Question of Radical Cure," by Dr.

Bryson (in connection with the discussion mentioned); "Cases of Nephrectomy and Nephrotomy," by Dr. R. B. Nall, of Memphis, Tenn.; "A Contribution to Renal Surgery," by Dr. Nicholas Senn, of Chicago; "Primary Syphilitic Lesions at the Meatus Urinarius," by Dr. Francis B. Greenough, of Boston; "Induration of Venereal Sores not always an Indication that Constitutional Syphilis will follow," by Dr. Edward C. Burnett, of St. Louis; "Malignant Tumors of the Inguinal Ganglia secondary to Epithelioma of the Penis," by Dr. Taylor, of New York; "The Relation of the Prostate to Chronic Urethral Discharge," by Dr. J. William White, of Philadelphia; "Report of Three Cases of Chronic Cystitis of the Neck resulting in the Formation of Hard Fibrous Rings at the Site of the Sphincter Vesicæ, with Remarks," by Dr. Bryson, of St. Louis; "A Case of Melanotic Sarcoma of the Vulva," by Dr. Taylor, of New York; "Reflex Irritations from Stricture of the Urethra in the Female," by Dr. Fessenden N. Otis, of New York; "The Treatment of Gonorrhœa, and Gonorrhœal Cystitis," by Dr. Edward R. Palmer, of Louisville, Ky.; "Cases," by Dr. Alexander W. Stein, of New York; "Cases of Suprapubic Cystotomy," by Dr. L. Bolton Bangs, of New York; "A Case of Scirrhus of the Bladder (with specimen)," by Dr. Arthur T. Cabot, of Boston; "Hereditary Syphilitic Transmission through Two Generations," by Dr. E. E. King, of Toronto, Canada; "A Case of Poisoning by Chromic Acid following its Application to Condylomata Acuminata," by Dr. J. William White, of Philadelphia; and "An Unusual Form of Vesical Calculus," by Dr. George Chismore, of San Francisco.

**Lanolin.**—In a recent number of the "Therapeutische Monatshefte," Dr. A. Gottstein, of Berlin, writing of sublimated lanolin as an antiseptic, refers to a former communication of his maintaining that lanolin is proof against destruction by micro-organisms, and that a layer of it, even without the addition of any antiseptic, resists the passage of germs. As a vehicle for antiseptics, it is therefore far superior to glycerin and to other fats.

## THERAPEUTICAL NOTES.

**Apomorphine as an Emetic.**—Dr. John Brown asserts in a recent number of the same journal that few, if any, of the new drugs introduced into the British Pharmacopœia have sustained such a high repute for their therapeutical value as apomorphine, and that, when given hypodermatically, it is the emetic *par excellence* for children. Dr. Brown prepares his own solution of apomorphine as follows:

| | |
|---|---|
| Apomorphine hydrochloride............... | 1 grain; |
| Alcohol... ............................. | 20 minims; |
| Water.................................. | 110 " |

Ten minims of this solution contain a twelfth of a grain of the alkaloid. Ten minutes is the average interval between the injection and the vomiting, which generally occurs two or three times at short intervals. The depression is only what might be expected after ordinary vomiting. Dr. Brown has not observed any case approaching fatality or even serious collapse.

**Ichthyol as an External Remedy in Skin Diseases.**—Ichthyol, says Dr. Charles J. R. McLean, in a recent number of the "British Medical Journal," acts in three ways: 1. As a protective. A solution painted over the surface of the skin dries quickly, forms a thin layer somewhat resembling friar's balsam or collodion, and thus protects the skin from air, dust, etc. 2. By reducing congestion. When it is applied to healthy skin the effects are apparently nil, but if there is active congestion it contracts the arterioles and thus lessens the vascularity of the part. 3. As a desiccant. In reducing the vascularity of congested skin, it also reduces the outward flow of serum. Dr. McLean has used ichthyol with marked success in the following cases:

*Simple Erythematous Eczema.*—After washing, the parts should be carefully dried with a soft towel, and, in the case of the hands, rubbed with a little diluted glycerin (1 part to 8 parts of distilled water). Dr. McLean generally applies ichthyol in the form of a solution, varying in strength according to the situation and stage of the disease. In a case of simple erythematous eczema, before the vesicles develop, a solution of 1 part to 8 parts of distilled water is of the proper strength to use, and should be painted on with a camel's-hair brush once in every four hours. The part may be washed in warm water and dried before each application. If the itching is very severe, the solution may be applied as often as once every two hours for three applications.

*Scaly Dry Eczema.*—An ointment is preferable in this stage of eczema, as it softens the epithelium better. It may be made of ʒ j of ichthyol and ℥ j of vaseline, with or without a little lanolin.

*Weeping Eczema.*—An ichthyol solution applied at the early stage of the "weeping" will control further exudation, but, if there is much tender surface, it is better to apply the ointment for the first twenty-four hours. The best way to apply the solution in this case is first to dry the surface gently and then paint it on, repeating in three or four hours if the part is not already dried.

*Simple Erysipelas.*—A solution (ʒ j to ℥ j) should be painted on every four hours.

*Urticaria-like Eruptions.*—The solution should be applied early, before the formation of many watery blebs.

*Furuncles.*—A strong solution (ʒ j to ℥ ss.) should be applied once every two hours for three or four applications, and then once every four hours. With this external treatment sulphide of calcium is administered in quarter-grain doses every two or three hours for twelve hours, and then three or four times a day.

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**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

THE NEW YORK MEDICAL JOURNAL, May 25, 1889.

## Original Communications.

# TWO RARE DISLOCATIONS.

## 1. DISLOCATION OF THE LOWER END OF THE ULNA FORWARD.

## 2. DISLOCATION OF THE UPPER END OF THE FIBULA OUTWARD AND FORWARD.

By LEWIS A. STIMSON, M. D.,

SURGEON TO THE NEW YORK AND CHAMBERS STREET HOSPITALS.

The infrequency of the injuries of which the following two cases are examples makes their publication desirable :

Case I.—Bridget G., "between forty and fifty years old," came to the Chambers Street Hospital, May 14, 1888, immediately after having received an injury of the right wrist. In the sudden descent of a dumb-waiter the hand and wrist had been caught between the upper edge of the inclosure and the lower surface of one of the shelves of the waiter. There was a slight abrasion on the radial aspect of the lower two inches of the forearm, and a contusion immediately opposite on the ulnar aspect, extending an inch higher. The hand was in complete supination, and could not be pronated. The normal prominence of the ulna at the back and side of the wrist was lost, and on palpation the ulnar border of the lower end of the radius and the portion of the upper posterior border of the carpus corresponding to the ulna could be distinctly traced. The relations of the carpus to the radius and metacarpus were unchanged. On passing the finger from the fifth metacarpal upward along the dorsum and ulnar side of the carpus, a bony lump (presumably the unciform) could be felt, and then a narrow, transversely elongated bone, which I thought to be the cuneiform. Above the latter was a deep depression, in front of which, on the front of the wrist, the lower end of the ulna could be felt. The triangular fibro-cartilage could not be recognized.

Reduction was easily made, with a distinct snap, by forced pronation combined with pressure backward upon the ulna and forward upon the radius. The dislocation could be easily reproduced by supinating the wrist and pressing the ulna forward.

The history and the bruises on the forearm indicate that the mechanism by which the dislocation was produced was not exaggerated supination, but direct pressure upon the two bones from opposite sides in a direction more or less oblique to the transverse axis of the radius. The position of full supination in which the limb was fixed is apparently not constant in all cases.

Case II.—Thomas C., twenty-four years old, was admitted to Chambers Street Hospital April 10, 1889. Shortly before admission he had sprung sideways to the sidewalk to avoid a horse, and, his feet slipping to the left, he had fallen upon his right side. He felt sharp pain at the right ankle and then below the right knee on the outer side, and, on passing his hand over the latter region, felt an unusual bony prominence. He arose, mounted his truck, and drove it for twenty minutes, when the pain below the knee had become so severe that he could not walk. He was brought immediately to the hospital. He declared himself unable to walk, but could flex the knee to a right angle and move the ankle freely. The head of the fibula could be readily recognized by the eye and touch projecting on the outer side of the leg, with the tendon of the biceps showing prominently as it curved downward and outward, its convexity directed forward and somewhat inward. The upper, outer, anterior, and posterior surfaces of the head of the fibula could be palpated readily. The distance from the head to the tuberosity of the tibia was one centimetre less than on the other leg, and the circumference of the limb just below the patella was one centimetre greater than on the other side. The skin showed no contusion.

As the region was extremely tender on pressure, ether was administered, and then reduction was easily made by pressing the head of the fibula backward with the thumb, while the knee was flexed at a right angle. The bone returned to its place with a distinct snap.

The next day the region was still quite tender, and forcible depression and adduction of the front of the foot caused pain at the head of the fibula.

The reported cases of this injury are only six in number, and of these, three were collected by Malgaigne more than thirty years ago. It will be remembered that the head of the fibula is normally placed behind the tibia, rather than on its outer side, so that a dislocation forward must also be outward. To it are attached the external lateral ligament of the knee joint and the tendon of the biceps, coming from above, and from the front of the shaft arise many of the fibers of the anterior group of muscles of the leg—those which produce dorsal flexion of the ankle. It is easily conceivable that external violence, acting directly upon the head of the fibula, in a direction from behind and within outward and forward, might produce this dislocation, but in none of the recorded cases is there any indication that such violence came into play. Jobard, who reported the second case, suggested that the injury might have been caused by the contraction of the muscles attached to the front of the bone. His patient stumbled while ascending a staircase, and felt a snap before he had fallen. The explanation, although open to serious criticism, is strengthened by the fact that in two of the remaining cases (Savournin's and Robert's) the front of the foot was forcibly depressed at the moment of the accident, and that in mine a similar movement communicated to the foot after reduction caused pain in the region of the dislocation, and that sharp pain was felt at the ankle at the time of the accident. Savournin's patient, a woman, thirty years old, while descending a staircase, caught her heel on a step; the front of the foot was sharply depressed and turned inward, and she fell in a squatting posture. Robert's patient, jumping over a bench, fell with the foot flexed and inverted, and suffered much pain along the outer side of the leg, especially at the lower part. In the remaining cases the history throws little or no light upon this point. Thomson's patient fell into a ditch, striking upon the injured leg; Melzer's slipped sideways; and Read's, while shoeing a horse, was thrown down with his leg doubled under him.

In Read's case reduction occurred spontaneously during the struggles excited by anæsthetization; in the others it was readily effected by direct pressure upon the head of the fibula in a suitable direction.

### SOME FACTS AND OBSERVATIONS RELATIVE TO

# THE CONGENITAL MALFORMATIONS OF THE RECTUM AND ANUS,

### AND TO THE OPERATION OF COLOTOMY IN SOME SUCH CASES.

By WILLIAM BODENHAMER, A. M., M. D.

The writer was induced to make the following observations on this interesting subject from having read an excellent paper by Dr. George E. Brewer, under the head "Successful Lumbar Colotomy, with a Sphincter Formation, in a Case of Congenital Absence of the Rectum and Anus" (New York "Medical Record" of December 1, 1888, p. 643). In this paper Dr. Brewer describes the particulars of his successful operation of lumbar colotomy, according to the method of Amussat, in the case of a male child two days old. His paper contains Mr. Curling's classification of the congenital malformations of the rectum and anus, together with two statistical tables of the number of infants upon whom inguinal and lumbar colotomy had been performed up to 1888. Dr. Brewer, in his table on inguinal colotomy, which contains fifty-six cases, fails to include the following important ones: Voisin's fourth case, Duret's second case, Miriel's fourth case, Tüngel's two cases, Johnson's second case, Schlagintweit's case, Rochard's case, Leprestre's case, Curling's case, Green's case, Goyrand's case, and an anonymous author's case—thirteen cases.

All these cases are authentic and must not be omitted. They will all be found in the writer's table on inguinal colotomy, which includes fifty-one cases, according to his estimate, brought up to 1879. In 1860, now twenty-nine years ago, the writer's table contained twenty-five cases as presented in his treatise, page 322. The cases which have been reported since 1879 will not, for obvious reasons, be found in the writer's table; but these cases Dr. Brewer has presented in his table, which, as before remarked, was made up to 1888, and they are as follows: Warren's case, Campbell's case, Tuckerman's case, Humphrey's case, Redwood's case, Hashimoto's four cases, Moullin's case, Simon's case, Stott's case, Weinlechner's case, Robson's case, Pitt's case, Stretton's case, Goodman's case—seventeen cases.

Now, if these seventeen cases are added to the writer's fifty-one cases, they will number sixty-eight cases of inguinal colotomy operations up to 1888, instead of fifty-six cases reported by Dr. Brewer.

Dr. Brewer's table on lumbar colotomy was also calculated up to 1888, and contains seventeen cases, including his own. He, however, omits the important case of the late Professor A. C. Post, of New York, who on the 4th of March, 1861, reported to the New York Medical and Surgical Society the case of an infant having an imperforate rectum, half an inch above a normal anus, upon whom he had performed a double operation. In this instance Dr. Post failed to reach the rectal cavity by dissecting through the septum of the normal anus; he then performed lumbar colotomy; but the child died a few days after of erysipelas of the wound and face ("American Medical Times," vol. v, p. 64, New York, 1862). This case of Dr. Post's, as before remarked, is important as being the first recorded one in the United States, so far as the writer's knowledge extends, in which colotomy was performed on an infant for congenital imperforate rectum, and, of course, the first case of lumbar colotomy on such a patient. Dr. Pooley's case in 1869 was the first recorded one in the United States in which inguinal colotomy was performed on an infant for imperforate anus.

The writer made the following remarks in his treatise which was published in 1860, page 302: "I am not aware that any surgeon in the United States has ever performed the operation for abdominal artificial anus in the case of an infant with congenital imperforation of the rectum and anus. If there is such a case reported, I have not seen the record."

The cases of Professor Post and Dr. Pooley, being the first recorded ones in our country, are therefore highly interesting as affording some encouragement as well as giving evidence of further advance and of inspiration in this direction.

Dr. Brewer has also omitted other important cases besides that of Dr. Post in his table on lumbar colotomy, notably among them the fourth interesting and successful case of Amussat. This was the case of a male child having an imperforate rectum above a normal anus. The operation was performed on the 21st of May, 1852, by Amussat, according to his own method. The boy upon whom the operation was performed was living and quite well when seven years old, and was as bright and as brisk as any other boys of his age, and he may still be living ("Bulletin général de thérapeutique médicale et chirurgicale," tome lxi, p. 374, Paris, 1861). This was the last case in which the late distinguished and lamented M. Amussat performed the operation of lumbar colotomy; he died in 1856.

The following are the cases, then, which Dr. Brewer omits in his table on lumbar colotomy: Post's case, Amussat's fourth case, a German surgeon's case, Curling's two cases, Leslie and Pennell's case—six cases.

All these cases are authentic and are in the writer's table on lumbar colotomy, which was calculated up to 1879 and contains sixteen cases. The following seven cases of Dr. Brewer, including his own case, are not in the writer's table, they having been reported since his table was made: Farland's case, Bird's case, Weir's case, Fowler's case, Barkwell's case, Power's case, Brewer's case—seven cases.

If these seven cases of Dr. Brewer's table are added to the sixteen cases of the writer's table, they will make twenty-three lumbar colotomy operations up to 1888, instead of the seventeen cases reported by Dr. Brewer.

The writer, before giving his statistical tables, will, for the better understanding of them, give his own classification and arrangement of all the congenital abnormal conformations of the rectum and anus. All who are familiar with these congenital anomalies which the anus and the rectum present know that they assume a great variety of forms, from the most simple to the most complicated, so that it is no easy task to enumerate, classify, describe, and define them. They also afford to surgery the rare opportunity of displaying its science and its art in the most surprising manner.

The writer, a number of years ago, before making his classification, examined those of von Ammon, Boyer, and Amussat, as well as the nomenclature of these congenital vices as proposed by Papendorpf, all of which differed more or less. He then made his own classification, which accorded in some particulars with that of Papendorpf, whose arrangement, although not systematized, but merely suggested or outlined more than a century ago, he believed to be as scientific as any he had seen of a later date; it was, however, imperfect and contained some radical defects which were not adopted, but corrected.

Then, taking as a basis of classification the anatomical and the pathological characteristics which constitute the congenital vices of structure of the anus and rectum, the writer distinguished them all into nine species, each one of which comprises a greater or a less number of varieties. The desideratum, however, in constructing a classification of this character is such an arrangement as will connect things in themselves similar, so as to enable the student to study, with the least expense of time and trouble, the particular facts and united groups of facts which the subject naturally presents; beyond this the writer has nothing to say for his own classification, except that he believes it will be found to be as explicit, practical, and comprehensive as any nomenclature upon this subject extant.

The following is the writer's classification, consisting of nine distinct species or classes, as presented in his treatise on the congenital imperfections of the rectum and anus, published in 1860, page 53:

I. This species consists of a preternatural narrowing or stenosis of the anus at its margin, and occasionally extending a short distance above this point.

II. In this species there is a complete occlusion of the anal aperture by a simple membrane, or by the common integument, or a substance analogous to it, more or less thick and hard.

III. In this species there is no anus whatever; the rectum, being partially deficient, terminates in a *cul-de-sac* at a greater or less distance above its natural outlet.

IV. The anus in this species is normal, but the rectum at variable distances above it is either deficient, obliterated, or completely obstructed by a membranous septum.

V. In this species the rectum terminates externally by an abnormal anus, located in some unnatural situation, as at some point in the sacral region or at different points in the perinæum; or it may be prolonged in the form of a fistulous sinus, and terminate by an abnormal anus at the glans penis or the labia pudendi. The normal anus being generally absent, its functions are more or less imperfectly performed by the abnormal one.

VI. The rectum in this species opens preternaturally into the bladder, urethra, or vagina; or into a cloaca in the perinæum with the urethra and the vagina. In these instances the normal anus does not generally exist.

VII. In this species the rectum is normal, with the exception that either the ureters, the vagina, or the uterus open preternaturally into it.

VIII. In this species the rectum is entirely wanting.

IX. The rectum and colon in this species are both absent, and some other portion of the intestinal canal terminates externally in a preternatural anus in some extraordinary part of the body—such as the umbilicus, the left iliac fossa, the lower part of the abdomen just above the symphysis pubis, below the scapula, and at the side of the face, as it has been known to have occupied each of these situations. No normal anus ever exists.

It will be observed that each one of these different species or classes contains within itself abundant material to form a separate and distinct practical treatise upon this prolific subject.

The following syllabus or synoptical table presents at a single view the different congenital malformations of the anus and rectum, including all the species of the writer's classification, except the ninth:

TABLE I.

| | | |
|---|---|---|
| The congenital malformations of the anus. | | 1. Preternatural narrowing.<br>2. Occlusion by a thin membrane.<br>3. Occlusion by a thick, hard membrane.<br>4. Partial or complete absence.<br>5. Abnormal. |
| The congenital malformations of the rectum. | Occlusion of the rectum. | 1. By one membranous septum.<br>2. By two or more membranous septa. |
| | Obliteration of the rectum. | 1. By the agglutination of its parietes.<br>2. By the puckering of its parietes.<br>3. By the thickening and the induration of its parietes. |
| | Preternatural termination of the rectum. | 1. In a *cul-de-sac.*<br>2. In the bladder.<br>3. In the urethra.<br>4. In the vagina.<br>5. In a cloaca in the perinæum with the vagina and urethra.<br>6. In the ano-perineal region, at different points.<br>7. In the sacral region. |
| | Preternatural termination of other organs in the rectum. | 1. Of the ureters.<br>2. Of the vagina.<br>3. Of the uterus. |
| | Absence of the rectum. | 1. Partial.<br>2. Complete. |

In presenting the following statistical tables on this subject, the writer is prepared to verify, by the highest authority, the authenticity of each and every case represented in them. He is indebted to the valuable tables of Mr. Curling and Mr. Cripps, of London, for a number of cases reported since his own table was made in 1860, which then contained 287 cases, the largest number ever before collected in one body; his present table, No. II, contains 465 cases, an increase from 1860 to 1879 of 178 cases. The table below will exhibit the whole number of authenticated cases of the congenital malformations of the rectum and anus which the writer has collected from various sources up to 1879. It will give the number of cases; the number of each species, according to the classification of the writer; the number of males and of females, and of those in which the sex is not stated; the number treated, and the result; and the number not treated, the result of which is generally not stated:

Table II.

| SPECIES. | Cases. | Males. | Females. | Sex not given. | Treated. | Successful. | Unsuccessful. | Not treated. |
|---|---|---|---|---|---|---|---|---|
| First | 13 | 4 | 5 | 4 | 12 | 9 | 3 | 1 |
| Second | 18 | 9 | .. | 9 | 16 | 10 | 6 | 2 |
| Third | 97 | 54 | 21 | 22 | 89 | 39 | 49 | 8 |
| Fourth | 106 | 59 | 21 | 26 | 101 | 40 | 62 | 5 |
| Fifth | 36 | 14 | 13 | 9 | 24 | 21 | 3 | 12 |
| Sixth | 136 | 77 | 58 | 1 | 89 | 39 | 50 | 47 |
| Seventh | 18 | 5 | 12 | 1 | 2 | 2 | .. | 16 |
| Eighth | 33 | 6 | 3 | 24 | 10 | . | 10 | 23 |
| Ninth | 8 | 2 | .. | 6 | 2 | .. | 2 | 6 |
| Total | 465 | 230 | 133 | 102 | 345 | 160 | 185 | 120 |

It will be seen by this table that out of 345 patients upon whom operations had been performed, 160 recovered. This is encouraging, especially when the desperate character of many of the cases is considered.

*The Influence of Sex.*—It has been supposed by some authors that sex exercises great influence in the production of defective congenital developments; but why it should, seems not easy of explanation. So far, however, as the researches of the writer extend in relation to the congenital abnormities pertaining to the rectum and anus, he finds quite a considerable preponderance in favor of the male sex. In the 363 cases as represented in the above table, 230 of the subjects were males and 133 were females. These cases are distributed among the different species of the writer's classification, as shown in the following table:

Table III.

| SPECIES. | Males. | Females. | Total. |
|---|---|---|---|
| First | 4 | 3 | 9 |
| Second | 9 | .. | 9 |
| Third | 54 | 21 | 75 |
| Fourth | 59 | 21 | 80 |
| Fifth | 14 | 13 | 27 |
| Sixth | 77 | 58 | 135 |
| Seventh | 5 | 12 | 17 |
| Eighth | 6 | 3 | 9 |
| Ninth | 2 | .. | 2 |
| Total | 230 | 133 | 363 |

M. Bouisson, of Montpellier, says that out of 100 cases which he had collected, he found 53 females and 47 males ("Thèse sur la question suivante: Des vices de conformation de l'anus et du rectum," p. 73, 4to, Paris, 1851).

Mr. Curling says: "According to my table, these malformations occur more commonly in male children than in female. Thus, out of 100 cases, 68 were males and 32 females. In my table, which excludes the first and seventh forms of malformation, there are 26 instances of the second form, 31 of the third, 26 of the fourth, 11 of the fifth, and 6 of the sixth" ("Observations on the Diseases of the Rectum," p. 194, 8vo, London, 1863).

In conclusion, the writer would observe that, so far as his knowledge of the subject extends, the female is much more predisposed to the simpler forms of congenital anomalies of the rectum and anus, and much less to those that are complicated with abnormities of the adjacent organs, than the male. He considers this to be the rule.

Before presenting the tables on inguinal and lumbar colotomy, the writer will make a few remarks relative to colotomy by either method.

It is well known that there is still considerable opposition to all operative proceedings in many of the cases of congenital imperforate rectum; but the arguments against operating in such rest generally upon assumption, which is not supported by either observation or experiment. These objections are certainly not in accordance with the genius and the inquiring spirit of the present day.

Now, as regards the performance of colotomy, in certain cases, the writer, since the publication of his treatise in 1860, is more than ever convinced of the importance, necessity, and propriety of performing either inguinal or lumbar colotomy, for it is now no longer a question whether colotomy can in these cases be successfully performed, for it has been in numerous instances, to the complete relief, both present and future, of the unfortunate patients, as is demonstrated beyond all cavil in the tables below.

As to the merits of either inguinal or lumbar colotomy, the writer is still decidedly in favor of the former when infants are the subjects. It is true that the method of Littre involves the opening of the peritoneal cavity, the dangers of which have always been exaggerated, but, as antiseptic surgery is now so thoroughly understood and practiced, the danger of pyæmia or peritonitis need now no longer be feared. As regards lumbar colotomy, it is admitted to be much more difficult of execution in infants than inguinal colotomy is, and possesses no superior advantages in any respect whatever over it. Colotomy, however, either inguinal or lumbar, is, in these desperate cases, the *sine qua non*—life or death—and the principles of surgery or surgical art, as well as humanity itself, command the surgeon to avail himself of it. No skillful surgeon should therefore be censured for performing colotomy in such cases, for it not only saves, but prolongs life; or for electing either the method of Littre or that of Amussat, for to each equal rights must be granted as both methods now rank in the profession.

During the last quarter of a century considerable progress has been made in our country in the investigation and treatment of these congenital defects. But the United States is far behind France, Great Britain, and Germany in this respect; in these countries this subject is being thoroughly investigated, and why should it not be here? The American surgeons, although occupying as high a rank as men of science as those of Europe, have as yet given, comparatively speaking, but little attention to the subject.

The personal experience of any one surgeon in the treatment of these comparatively rare congenital vices, however ample his opportunities may be, is not sufficient to supply data from which a satisfactory conclusion can be drawn in the consideration of so important a subject—hence the numerous authorities submitted in the tables.

The following table will present in a compendious and convenient form for reference all the cases the writer has collected from authentic sources up to 1879 upon which the operation of Littre (inguinal colotomy) was performed for congenital malformation of the rectum and anus. It will give the number of cases, the operator, the date in chronological order, the sex, the age, the species of malformation, and the result :

TABLE IV.

| No. | Date. | Operator. | Sex. | Age. | Species of malformation. | Result. |
|---|---|---|---|---|---|---|
| 1 | 1783 | Dubois | ... | 3 days. | Third. | Death 10 days after. |
| 2 | 1793 | Duret | M. | 2 days. | Third. | Lived 43 years. |
| 3 | 1794 | Desault | M. | 2 days. | Sixth. | Death 4 days after. |
| 4 | 1798 | Voisin | ... | ...... | Third. | Result unknown. |
| 5 | 1800 | Desgranges | F. | 4 yrs. | Sixth. | Living 8 mos. after. |
| 6 | 1802 | Voisin | M. | 10 d. | Ninth. | Death 4 days after. |
| 7 | 1809 | Duret | M. | 2 days. | Third. | Death on 5th day. |
| 8 | 1813 | Legris | ... | ...... | Sixth. | Death 17 days after. |
| 9 | 1813 | Serrand | F. | 60 hrs. | Fourth. | Alive 43 years after. |
| 10 | 1813 | Surgeon of Lyons. | ... | ...... | Third. | Successful. |
| 11 | 1813 | Surgeon of Brest. | F. | ...... | Third. | Death. |
| 12 | 1815 | Freer | ... | ...... | Third. | Death 21 days after. |
| 13 | 1816 | Miriel | F. | 2 days. | Fourth. | Alive 40 years after. |
| 14 | 1817 | Miriel | F. | ...... | ........ | Lived 25 years. |
| 15 | 1822 | Miriel | M. | 3½ d. | Fourth. | Alive 13 years after. |
| 16 | 1823 | Miriel | F. | 6 days. | Third. | Alive 2½ years after. |
| 17 | 1826 | Textor | ... | ...... | Third. | Death 8 days after. |
| 18 | 1826 | Schlagintweit | ... | ...... | Third. | Result unknown. |
| 19 | 1830 | Bizet | M. | ...... | Eighth. | Lived 1 month. |
| 20 | 1830 | Bizet | ... | 4 days. | Third. | Death 1 day after. |
| 21 | 1830 | Ouvrard | F. | 2 days. | Third. | Died suddenly. |
| 22 | 1835 | Klewitz | M. | 3½ d. | Sixth. | Lived 3 years. |
| 23 | 1837 | Anonymous | ... | ...... | Third. | Successful. |
| 24 | 1839 | Roux | ... | ...... | Third. | Death in 2 hours. |
| 25 | 1846 | Danzel | ... | 3 days. | Fourth. | Death in 8 days. |
| 26 | 1850 | Tüngel | M. | 1 day. | Third. | Lived 2 years. |
| 27 | 1850 | Tüngel | F. | 3 days. | Fourth. | Well 2 years after. |
| 28 | 1852 | Goyrand | M. | 2 days. | Sixth. | Lived a year. |
| 29 | 1854 | Nélaton | ... | ...... | Third. | Death same day. |
| 30 | 1855 | Lenoir | M. | 3 days. | Sixth. | Death in 9 days. |
| 31 | 1856 | Rochard | M. | ...... | Third. | Lived 5 years. |
| 32 | 1856 | Leprestre | M. | ...... | Third. | Lived 14 months. |
| 33 | 1860 | Johnson | F. | ...... | Fourth. | Death in 2 days. |
| 34 | 1860 | Johnson | F. | ...... | Fourth. | Death in 2 days. |
| 35 | 1862 | Giraldès | F. | ...... | Third. | Died. |
| 36 | 1863 | Bryant | F. | ...... | Fourth. | Died. |
| 37 | 1869 | Pooley | M. | 2 days. | Sixth. | Lived 4 years. |
| 38 | .... | Curling | F. | 12 d. | Third. | Lived 6 days. |
| 39 | 1871 | Campenon | M. | ...... | Fourth. | Died. |
| 40 | 1872 | Goëde | F. | ...... | Third. | Lived 4 years. |
| 41 | 1877 | Clutton | M. | ...... | Fourth. | Died. |
| 42 | 1879 | Owen | M. | ...... | Third. | Died. |
| 43 | 1879 | Owen | M. | ...... | Third. | Died of peritonitis. |
| 44 | 1879 | Owen | F. | ...... | Second. | Died. |
| 45 | 1879 | Owen | M. | ...... | Third. | Well at 3 months. |
| 46 | 1879 | Owen | M. | ...... | Fourth. | Alive 3 months after. |
| 47 | .... | Green | M. | ...... | Third. | Well 17 months after |
| 48 | .... | Marjolin | F. | ...... | Fourth. | Died. |
| 49 | .... | Denté | M. | ...... | Third. | Died. |
| 50 | .... | Willett | M. | ...... | First. | Died. |
| 51 | .... | Chairon | M. | ...... | First. | Died. |

| | |
|---|---|
| Whole number | 51 |
| Successful | 21 |
| Unsuccessful | 28 |
| Result unknown | 2 |

The following table will exhibit the number of all the authenticated cases collected by the writer up to 1879 in which lumbar colotomy was performed for congenital malformation of the rectum and anus. It will give the date in chronological order, the operator, the sex, the age, the species of malformation according to the writer's classification, the method of either Callisen or Amussat, and the result, so far as any one or all of these is recorded :

TABLE V.

| No. | Date | Operator. | Sex. | Age. | Species. | Method. | Result. |
|---|---|---|---|---|---|---|---|
| 1 | 1818 | Dupuytren | M. | .... | Third. | Callisen's. | Died of peritonitis. |
| 2 | 1828 | Bougon | M. | 13 d | Third. | " | Died 28 hrs. after. |
| 3 | 1842 | Amussat | M. | 2 d | Third. | Amussat's. | Lived 7 years. |
| 4 | 1842 | Amussat | M. | 2 d | Fourth | " | Died 7 days after. |
| 5 | 1843 | Amussat | M. | 2 d | Third. | " | Successful. |
| 6 | 1844 | Baudelocque | .... | .... | Fourth | " | Successful. |
| 7 | 1852 | Amussat | M. | 3 d | Fourth | " | Well at 7 years old. |
| 8 | 1852 | German surgeon. | M. | .... | Sixth. | " | Well at 8 years old. |
| 9 | 1855 | Guersant | M. | 3 d | Sixth. | Callisen's. | Death 3 days after. |
| 10 | 1858 | Leslie and Pennell | M. | .... | Eighth. | Amussat's. | Death in 14 days. |
| 11 | 1859 | Curling | F. | .... | Fourth | " | Death. |
| 12 | 1859 | Curling | F. | .... | Fourth | " | Died 9 days after. |
| 13 | 1861 | Post | .... | ... | Fourth | " | Died of erysipelas. |
| 14 | 1866 | Erichsen | .... | .... | Eighth. | " | Death 3 days after. |
| 15 | 1873 | Duncalfe | .... | ... | Third. | " | Died. |
| 16 | 1879 | Baker | F. | .... | Third. | " | Well at 3 years old. |

| | |
|---|---|
| Whole number | 16 |
| Successful | 6 |
| Unsuccessful | 10 |

The writer will conclude by remarking that, in the elucidation of this subject, he disclaims all pretensions to a practical and a personal experience in performing colotomy on the living body of such subjects ; indeed, this seldom falls to the lot of any one surgeon, however large his practice may be ; even the distinguished authors or originators of the two celebrated methods of performing colotomy, Littre and Callisen, were never during their lives afforded the opportunity of operating on a living subject of this kind. They never executed their favorite methods except upon the dead bodies of infants who had succumbed to some other malady.

27 EAST FORTY-SIXTH STREET, *April 10, 1889.*

## A RÉSUMÉ OF EXPERIENCE AT THE AURAL CLINIC OF PROF. HERMANN SCHWARTZE,

### IN HALLE, GERMANY.*

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THE object of this article is to give, in a general way, a *résumé* of experience at the aural clinic of Professor Schwartze, in Halle, Germany, for the purpose of mentioning briefly the methods of treatment used there, and permitting a contrast with those commonly adopted in this country. It is to serve merely as a narrative, the writer not being prepared (except in the case of the operation of opening the mastoid process) to advocate the adoption of the methods about to be mentioned, on account of the absence of statistics—of figures giving the duration of treatment and the results in a large number of cases—of positive and undeniable proofs in contradistinction to personal opinion ; for—whatever objections there may be to deductions based upon statistics, and notwithstanding there exists with many a prejudice against statistics owing to the ease with which the latter may, by the use of a little ingenuity, be made to present a favorable or an opposite complexion according to the side which the compiler advocates—there is no doubt that, versus individual sentiment unsupported by figures, statistics will always occupy the higher level in influencing medical opinion.

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* In this article is incorporated the substance of a paper read at a meeting of the Section in Ophthalmology and Otology of the New York Academy of Medicine, December 19, 1887.

The University of Halle is supported by the German Government and has about two thousand matriculates; its medical department has buildings which are separate from the rest and are quite new and modern in construction, with every attention given to the most approved hygienic rules. There are separate buildings for the study of each specialty; the eye and ear departments have one building in common, though the services and wards are separated. Everywhere the floors are of stone tiles or of hard wood, and the walls and ceilings of an impervious hard cement which allows of washing.

In the ear department there are several small wards, accommodating in all about twenty patients, while the rest of the aural part of the building is given to the public clinic rooms (dispensary) and the operating and lecture rooms. Everywhere there is an abundance of space, with every provision for sufficient light and air. In the wards each patient is allowed a large cubic area of air-space far in excess of the minimum of good hygienic requirements. The attention given to the carrying out of hygienic laws in the way of an abundance of light and air, cleanliness, the absence of all unnecessary articles of furniture, and a strict adherence to the rules of asepsis, is an important factor in the explanation of the very brilliant results of operative work seen there. Daylight is used for illumination and the hand-mirror as a reflector for the examination of ears; on very dark days artificial light is sometimes employed.

An important element of success in the treatment of the ears of dispensary patients is that the latter have as much time allotted to them as they would have in private practice, and on this account the same care can be taken as would be in the aurist's office; the clinic in Halle continues seven or eight hours daily, and during this time between fifty and sixty patients are treated. When we consider that a like number of patients are rushed through in two hours in most of our ear dispensaries in New York, it is not surprising that the results seen in Halle must impress one with their superiority.

One marked peculiarity in the aural therapeutics of Professor Schwartze is what might be called "boldness," but which would be better named "activity," as distinguished from the "there's-nothing-to-be-done" policy which too often is adopted in otology.

The "dry method" of treating otitis media chronica purulenta does not find an advocate in Professor Schwartze; on the contrary, he decries the method as being of doubtful value, and maintains that the free use of boric acid and its packing into the auditory canal simply forms a barrier against the escape of secretion, that thus there is a temporary improvement which lasts, in most cases, only until the plug is dislodged by a large accumulation of fluid from within, and that such hindrance to the escape of fluid is often the cause of attacks of pain; and he believes that in many cases (and professes to have conclusive evidence in some) this method of treatment is the cause of mastoid disease.

Chronic purulent inflammation of the middle ear, if it does not yield readily to the remedies in common use, is treated as follows: The ear is examined, and, a perforation having been found, the Eustachian catheter is introduced, and to it is attached a modification of Politzer's bag—Lucae's double bag; by forcing air through the tube and middle ear, the examiner satisfies himself that there is a free channel between the orifice of the tube and the auditory canal, either by the ear alone, if the perforation sound is a loud one, or with the aid of the auscultatory tube, the so-called otoscope, if it is less distinct. Then, keeping the catheter in place, but withdrawing the Politzer apparatus, he injects through the catheter a warm three-quarters-of-one-per-cent. solution of purified sodic chloride (common salt); the injection escapes from the external ear and is continued until it is no longer mixed with any secretion. If the other ear is similarly affected, the same process is repeated on the opposite side. Air is then blown through by Lucae's double bag, so as to dry the parts as much as possible and free them from excess of salt solution. The canal is dried by the use of cotton and filled with a strip of sublimated gauze. The advantages alleged for using the latter in the place of cotton are, that while it is equally effective and absorbent, it does not stick to the walls of the canal, and does not leave behind fibers which interfere with the clearness of view of the membrane obtained in subsequent examinations.

In cases of chronic purulent inflammation of the middle ear without perforation of the drum membrane, paracentesis is resorted to in the posterior inferior quadrant, the incision being of large size; then the syringing is conducted as before.

In acute inflammations of the middle ear, injections through the Eustachian tube are not practiced.

In very young children (under five years) this plan of syringing through the tube and middle ear is inapplicable, on account of the inability to control children of this age sufficiently to keep the catheter in place. Here the ordinary Politzerization is resorted to; then the canal is washed out and dried, and most commonly a warmed solution of nitrate of silver, varying from one to three per cent. in strength, is poured into the auditory canal so as to fill it; during this treatment the child's head is inclined and rests upon the table with the affected ear upward; the fluid is allowed to remain for fifteen minutes; it is then removed with cotton, the canal dried, and a strip of sublimated gauze stuffed into the ear.

When it is desired to apply other remedies besides salt solution to the Eustachian tube, especially one-per-cent. solution of nitrate of silver, this is often done by filling the auditory canal, the head being inclined as before, and then making pressure against the posterior surface of the lower part of the concha in a forward and inward direction; by alternately making and discontinuing such pressure, fluid is forced into the Eustachian tube, as evidenced by the taste in the mouth.

In cases of *otitis media chronica catarrhalis* with complete filling up of the tympanum, and in those in which the exudation only partially fills the tympanic cavity after they have been treated by other methods for a varying length of time without improvement or where little improvement is noted, paracentesis is performed, and salt solution is injected through the tube and middle ear as in the purulent cases; a free incision is made into the membrana tympani and the cavity of the middle ear emptied of the serous exudation or stringy mucus or muco-pus, the dislodgment of mucus being assisted by syringing the external auditory canal.

In these cases the greatest care is exercised in thoroughly drying the canal after syringing, for, if this is neglected, there is a great tendency for the inflammation to change from the catarrhal to the purulent type. To avoid this, after thorough drying, the canal is filled with sublimated gauze, and the auricle covered with cotton held in place by a bandage or metallic spring. The washings are repeated daily until the salt solution escapes perfectly clear, and then the opening made by paracentesis is allowed to heal, which it does very readily; in fact, there is a constant tendency for this to occur before a cure has been effected, necessitating the repetition of the incision over and over again. Some of the cases treated in this manner showed marked improvement in hearing and no tendency to a recurrence of the trouble, though the short time that they were under the writer's observation detracted from the value of this deduction.

Whenever fluid is injected through the middle ear, care must be taken that the solution be warm; if this caution is disregarded, violent pain, dizziness, and even syncope may ensue; these results occasionally take place even when due regard has been had for the suitable temperature of the solution, but then the same thing may happen in inflating the tympanum with air by the Eustachian catheter, or even by Politzerization.

Whenever the syringe is employed, its extremity is always protected by a piece of soft-rubber tubing which embraces it and projects slightly beyond it, thus preventing injury to the drum membrane should the patient move his head suddenly during the process of washing out; Politzer employs for this purpose a specially prepared tube of soft rubber, with tapering extremity, which is slipped on to the nozzle of the syringe. Since no advantage is alleged in keeping the ear dry in chronic inflammation of the middle ear with perforation, syringing the ear is one of the procedures most frequently applied.

Besides being done in the usual way with the metal syringe, cleansing the auditory canal is accomplished with great saving of time and no sacrifice of thoroughness by the use of *Meyer's douche* (Fig. 1). This consists of a small pump about five inches in height which is fastened to the margin of the table; to its base are attached two soft-rubber tubes, the extremity of one dipping into warm salt solution, that of the other being provided with a suitable tip for entrance into the external meatus. The left hand holds the arm of the pump, and with the right the rubber tube is conducted and held in the ear. In this way a continuous stream is obtained, the force of which can be regulated by the rapidity with which the handle of the pump is worked. The patient holds a pus basin which is perforated and has attached to it a piece of tubing conducting the fluid escaping from the ear into a vessel placed beneath the table. This method of washing out the ear, whether used for cleansing or for the removal of impacted cerumen, is very practical and effective, and its use results in an immense saving of time. It is especially applicable to dispensary or clinic practice, where many patients are treated rapidly in succession; in private practice its advantage over the ordinary syringe is not so marked.

In the large number of cases in which it is desirable to inflate the tympanum the catheter is used; less frequently is the Politzer bag employed.

*The contra-indications to the use of the catheter* Schwartze enumerates as follows:

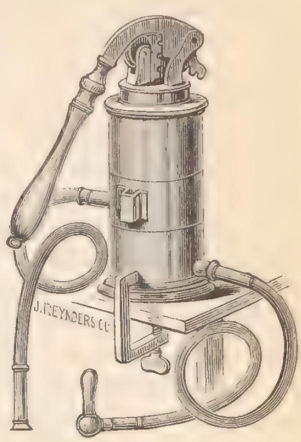

Fig. 1.—Meyer's douche.

*a.* Absolute:

1. Ulcerations of the nasal or naso-pharyngeal mucous membrane with tendency to hæmorrhage.

2. Considerable elevation of temperature.

3. Violent inflammatory pain in the ear and acute pharyngitis.

4. Traumatic emphysema of the pharynx.

*b.* Relative—in which individual circumstances decide whether catheterization is allowable:

1. Enfeebled state of the system in convalescence from disease.

2. Great nervous irritability due to local causes.

3. Extreme old age.

4. Infancy and childhood up to the end of the fourth year. In children older than this the catheter can usually be introduced without any difficulty.

The *method of introducing the catheter* recommended by Schwartze is as follows: By elevating the tip of the nose or drawing down the upper lip, the catheter is assisted into the anterior nares with its curved anterior extremity downward; it hugs the floor of the inferior meatus close to the septum and is pushed back gently until it impinges upon the posterior pharyngeal wall; it is now drawn forward a short distance, its anterior extremity being slightly lifted, until a faint resistance informs us that its extremity impinges against the soft palate; when this point has been reached, it is turned so that it shall point to the outer angle of the corresponding eye, the direction being indicated by the ring or mark upon the outer extremity of the instrument; it will now be found in place.

For inflating the middle ear, Lucae's double bag is used in connection with the catheter. It consists of an ordinary rubber bag and another a short distance from this protected by netting, and serving as a reservoir. The advantage alleged for this arrangement over the single bag is that the pressure is increased from one fifth or three tenths of an atmosphere to two or three fifths of an atmosphere, and that this pressure is more constant than with the usual instrument. In combination with this there was used a filtering capsule—a metal box in which is placed gauze, in order to keep back all foreign particles from the atmosphere; although this would seem a small matter, yet examination showed that a large amount of dust and other impurities had been held back by this device after two weeks' use. The combination of Lucae's double bag and filtering apparatus is provided with a hook by means of which it is fastened to the coat of the aurist, the hook being slipped into the button-hole; by compressing the first bag, the second one is kept distended, and thus a constant pressure exerted, which can be very much increased by compressing the second or reservoir portion.

Great stress is laid upon the importance of affections of the nose, hypertrophied tonsils, adenoid vegetations, and other diseases of the pharnyx, as prominent ætiological factors in the causation and aggravation of ear disease in general; and the treatment of such accessory lesions is insisted upon. Hypertrophied tonsils are excised with Matthieu's amygdalotome. Adenoid vegetations of the vault of the pharynx are removed with Trautman's sharp spoons, in conjunction with which very often Meyer's ring-knife is employed. Trautman's instrument (Fig. 2) consists of a hollow hemispherical spoon, with sharpened margins supported upon an obtuse-angled shaft; the spoon-like extremity, concave anteriorly, is made in various sizes. The cutting part of the instrument is passed behind and above the soft palate and then pressed against the superior and posterior pharyngeal wall, and is made to sweep this in a direction from above downward and from behind forward, the patient's head being inclined toward the operator after the instrument is in place; this process of scraping is performed first in the middle line and then on each side of the median line.

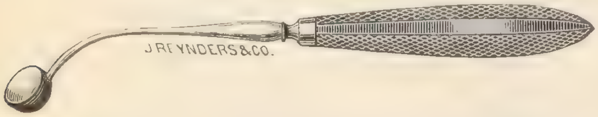

Fig. 2.—Trautman's sharp spoon for removal of adenoid vegetations of the pharynx.

If additional adenoid growths are found surrounding the posterior nares, they are removed by Meyer's ring-knife (Fig. 3), which consists of an oval ring with a sharpened inner margin, supported upon a metal shank. The instrument is introduced through the nose and the adenoid vegetations are seized between the sharp inner edge of the ring-like extremity and the finger of the operator introduced into the patient's mouth up behind the posterior nares; this instrument also comes in several sizes. The name of Meyer, of Copenhagen, will be remembered as being identified with the first operative proceedings for the removal of these growths.

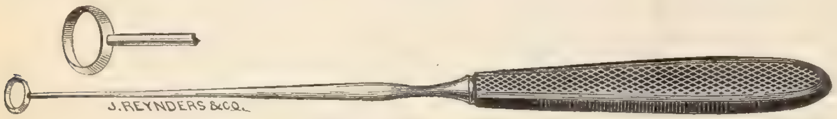

Fig. 3.—Meyer's ring-knife.

To hold the mouth open during the use of Trautman's sharp spoon, and to protect the finger when Meyer's ring-knife is used, a very simple gag—Meyer's (Fig. 4)—is employed. It consists of a triangular piece of lead properly supported, which is passed between the teeth of one side.

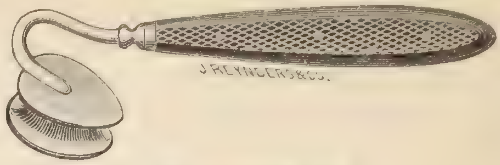

Fig. 4.—Meyer's gag.

The jointed metal finger (Fig. 5)—which, when slid over the index finger of the operator, allowing the distal phalanx to project, protects against injury, but still allows free movement and tactile advantages of the uncovered finger-end—is also employed.

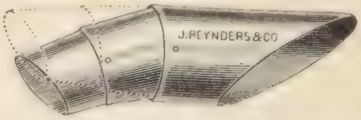

Fig. 5.—Finger protector; used in digital exploration and operation of pharynx.

Comparing the removal of adenoid vegetations of the vault of the pharynx by means of Trautman's spoons, aided in some cases by the employment of Meyer's ring-knife, with the same operation performed, as it usually is in this country, by Loewenberg's forceps or some of its modifications, it can not be disputed that the former is the quickest and most efficient method; it enables the operator to free the naso-pharyngeal space from all growths rapidly and at one sitting. The only disadvantage that can be urged against the plan just commended, and one that would be potent especially in private practice, is that it causes a considerable, though never a dangerous, amount of bleeding; and the sight of a considerable volume of blood flowing from the mouth and nose of the patient is very apt to frighten the mother or attendant of the child—for it is in children that the great majority of cases of adenoid vegetations are found. After the operation, the naso-pharynx is bathed daily with a three-quarters-of-one-per-cent. solution of common salt by means of a spray introduced through the nose.

Probably no one is considered a greater authority on diseases of the mastoid and the operation of opening the mastoid, and is more especially identified with these subjects, than Professor Schwartze.

The indications for the operation Schwartze gives as follows:

1. Acute inflammation of the mastoid with retention of pus if, after the application of cold by ice-bag or coil and Wilde's incision *—this treatment continued not longer than a week—the œdematous swelling, pain, and elevation of temperature do not disappear. In children, the palliative treatment may be tried a little longer, but in adults a delay until pyæmic or meningitic symptoms set in, he considers decidedly wrong; since, if in doubt, it is better to err and perform an operation which is now almost devoid of danger

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* An incision down to the bone, parallel with and one centimetre behind the posterior attachment of the auricle, varying in length from two and a half to five centimetres.

to life (as is shown below). Even if no pus is found, the operation may be and often is curative in checking the further progress of the inflammation.

2. In chronic inflammation of the mastoid, where repeated attacks of swelling with consequent improvement have taken place, or where there has been the formation of abscess or fistulæ pointing or opening at or through the skin of the mastoid region, the neck, auditory canal, or pharynx. The operation is advised in these cases, even though there is no immediate danger to life, for in such cases surgical interference is less dangerous than the results of a continuation of the chronic inflammatory process.

3. In cases in which, although the mastoid appears healthy externally, there is retained pus or cholesteatoma of the middle ear which can not be evacuated by the natural channel, as soon as symptoms appear which indicate that complications dangerous to life are imminent.

4. In cases of long-continued pain in the mastoid region, although the bone is apparently healthy, when the pain is not controlled by other remedies. Here the chiseling of a funnel-shaped or boat-shaped piece of bone from the sclerosed cortical portion of the mastoid may effect a cure without the necessity of extending the opening into the antrum.

5. As a prophylactic measure against the fatal consequences which might ensue as a result of incurable purulent inflammation of the middle ear with fœtid discharge, in cases in which there are no other symptoms of retention of pus in the middle ear, except an obstinate penetrating fœtor of the pus, despite careful cleansing and disinfection through the auditory canal and the Eustachian tube. In these cases the antrum is opened and kept open for a time, in order to permit washing out of the middle ear from behind.

Schwartze's method of operation is the following: An incision is made about a centimetre behind and parallel with the posterior attached margin of the auricle, from two centimetres and a half to five centimetres in length, down to the bone. If there has already been an opening or fistula, this is made the central part of the incision through the skin, and the opening in the bone simply enlarged. If there is no such opening to serve as a guide, the central point of the cutaneous incision corresponds to the level of the external auditory meatus. Next, the periosteum is separated from the bone for a little distance on each side of the incision. Then an area is marked out upon the bone, which is bounded by the following lines: In front, the anterior border of the mastoid process at the level of the so-called "spina supra meatum" (Henle)—a small bony projection found in this situation in the majority of cases; behind, a line situated about ten or twelve millimetres from and parallel with the preceding; above, the commencement of the temporal ridge; below, a line parallel with the latter and about ten or twelve millimetres from it.

These lines serve to bound a square-shaped area of bone, about half an inch in diameter, situated just behind the above-mentioned small bony projection from the anterior border of the mastoid portion of the temporal bone known as the "spina." In this field we usually find a large number of nutrient foramina. These are the superficial limits of the area of bone to be removed, and within this space a round or oval piece of bone is chiseled off in successive layers. The chisels are eleven centimetres in length, and have a concave cutting edge varying from two to eight millimetres. They are applied almost horizontally, their direction being such that they never form an angle of more than forty-five degrees with the surface of the mastoid.

If caries and softening exist, the diseased portion of bone and the cheesy pus and fungoid granulations are removed by the sharp spoon, and no chiseling may be necessary, or only enough to remove the discolored edges of the diseased area of bone.

If no superficial caries has taken place and made an opening, a funnel-shaped piece of bone is removed by the chisels, the base corresponding to the superficial area already described, and the apex extending in a direction inward, downward, and forward, about parallel with the external auditory canal, until the antrum of the mastoid or a collection of pus communicating with this cavity is arrived at, or until the depth of two centimetres and a half is reached. Beyond this it is not safe to go, on account of the danger of wounding the external semicircular canal or the facial nerve.

After having reached the depth of two centimetres, great care must be exercised in proceeding further. Above, the temporal ridge marks the superficial limit of safety, for beyond this line we are in danger of opening the cranial cavity and injuring the dura mater. Behind, it is not safe to proceed beyond twelve millimetres from the anterior margin of the mastoid portion of the temporal bone, on account of the liability of injuring the lateral sinus. In front, a sufficient ridge of bone, corresponding to the anterior border of the mastoid, should be left, to afford proper support to the auditory canal, unless this part is involved in the diseased process. Simple exposure of the dura mater and of the lateral sinus, without injury to these structures, is not followed by any undesirable results, probably because these tissues have become thickened as a part of the neighboring inflammatory process.

Injury to the lateral sinus, though certainly undesirable, is not so dangerous as it would seem. In one of the cases seen by the writer this accident took place; the operation was left unfinished, the wound immediately packed with iodoformized gauze so as to check hæmorrhage, and a bandage applied. The child made a rapid recovery without any unfavorable symptoms, and, notwithstanding the operation had necessarily been left unfinished, a perfect cure of the disease of the mastoid, for which it had been undertaken, resulted.

In preparing for, during, and after the operation, the strictest antiseptic precautions are observed. Professor Schwartze is an extremist in this respect. Before the operation the hands of the operator and his assistants are scrubbed with soap and hot water, and then washed in one-to-one-thousand sublimate solution. The mastoid region, after being shaved and scrubbed with soap and water, is washed with one-to-one-thousand sublimate solution. During the progress of the operation one-to-five-thousand or one-to-ten-thousand sublimate solution and one or two-per-cent. carbolic-acid solutions are employed, and the wound is kept bathed with one of these antiseptics constantly. The instruments are immersed in three-per-cent. carbolic-acid solution.

It is a desideratum to establish a communication between the external auditory canal and the opening in the mastoid through the middle ear, and in most cases this is effected, for a perforation usually exists in the membrana tympani. When such communication exists, solutions of one-to-ten-thousand corrosive sublimate are syringed through the mastoid opening and pass out of the auditory canal, and absolute cleansing is thus made possible. In other cases, though at the time of operation no such communication existed, it became established in several days. In a few cases such communication could not be effected, and then no effort to establish it was made.

The wound is dusted with iodoform, and a piece of drainage-tube is placed in the center, packed in with iodoformized gauze, and gradually shortened as the granulations increase. Subsequently a leaden nail, with a flange to keep it in place, is inserted, to keep the external wound open until the deeper parts continue absolutely clean and it is thought advisable to allow them to fill up with granulations, when the nail is gradually made shorter.

The wound is covered with sublimated gauze and a bandage applied to keep the latter in place. The patient is kept in bed for at least a week. Later in the after-treatment, instead of the bandage, which, since it must pass below the lower jaw, is discomforting, the metal spring suggested and used by Carl, while convalescing from an operation upon the mastoid by Schwartze, may be used. It consists of a cloth-covered strip of metal half an inch in width, and sufficient in length to pass across the vertex of the head from one auricle to the other; the end of this band is provided with an ear-shaped expansion having the size of the auricle; the instrument is bent so that by its elasticity it applies itself closely to the head and exerts moderate pressure upon the dressings covering the ear, holding them in place, and thus doing away with the necessity of a bandage.

The opening is washed out daily, for a variable length of time, with solution of carbolic acid (one per cent.) or corrosive sublimate (one to ten thousand), and the opening not allowed to close up entirely until the discharges present nothing but the secretion due to the healthy granulation tissue of the wound. The duration of the after-treatment averages from one to three months in acute cases, from nine to ten months in chronic cases.

In cases of cholesteatomata it is desirable to establish a permanent opening in the mastoid, for there is a constant tendency for a repetition of this peculiar formation; when this occurs, and we have taken the precaution to keep the opening in the mastoid pervious, the mother-of-pearl-like masses can readily be removed. There appears to be a singular deficiency of literature upon the subject of cholesteatomata in American publications; in several of the cases operated upon these masses were found. They consist of rounded collections, varying in size, composed of successive layers, which are formed usually of epithelium, fat, granular matter, and cholestearin. There are many explanations of their formation, the one most credited being that the peculiar mass is due to changes which have taken place in decomposing pus to which epithelial cells have been added.

In Schwartze's "Lehrbuch der chirurgischen Krankheiten des Ohres," published in 1885, the mortality following the operation in two hundred and fourteen cases is given as six per cent. Since that time, however, he has succeeded in reducing this percentage of deaths very materially. The writer was informed that in upward of eighty cases seen by the assistant who had been with Schwartze for several months previous, there had been but two deaths, and one of these (which took place during the writer's service and is referred to below) was unquestionably independent of the results of the operation.

During a period of six weeks the writer saw twenty-eight cases in which the operation was done, having performed the operation himself in ten of these. Twenty-seven of the patients recovered. The fatal case was that of a child who was brought to the clinic with imperfectly marked meningitic and pyæmic symptoms; the operation was performed as a last resort; the child died several days after. At the autopsy, multiple pyæmic abscesses in various parts of the body, evidences of meningitis, and the existence of a large abscess in the cerebellum, proved conclusively that death had not been the result of the operation.

A mortality of but little over one per cent. in opening the mastoid is certainly indicative of brilliant results, and makes the study of Schwartze's method of operating and his success an interesting as well as important one.

"Hoffman Arms," Madison Avenue and Fifty-ninth Street.

# CHOLECYSTOTOMY.

By R. W. STEWART, M. D., M. R. C. S.,
PHYSICIAN TO MERCY HOSPITAL, PITTSBURGH, PA.

On March 6th I was called to see Mrs. W., and found her suffering such acute pain that I resorted at once to the hypodermic injection of morphine before attempting to make a diagnosis of the cause of her suffering. On the following day I called to see her and found that, under the influence of morphia, her pain had become bearable. I then obtained from the patient the following history: She was fifty-nine years of age, married, and the mother of three children. About thirty years ago she began to be attacked with paroxysms of pain of intense severity, which would last from fifteen minutes to half an hour. The pain was confined to the right side of the body, never radiating to the shoulder but sometimes passing down the right thigh as far as the knee. The pain was not located in any particular spot, there being a general soreness over the right side, which was most marked, however, in the region of the right kidney. During these paroxysms there would be incessant vomiting, a rapid pulse, profuse perspiration, and a cold skin.

During the past thirty years these attacks had gradually become more frequent, so that, instead of occurring every few days, they now occurred every few hours, and their duration was more prolonged, so that her condition was a most pitiable one. To add to the misery of her condition, a chronic gastritis had developed and her stomach refused to retain nourishment even when the paroxysms were absent. During the past two years she had been confined to the house, and when I was called to see her she was confined to the bed, and it was evident that unless relieved from her suffering death would soon ensue.

The rigidity of the abdominal muscles on the right side prevented a careful examination. There was general enlargement of the liver, but the gall-bladder could not be felt. Examination over the region of the kidney was negative except that it elicited marked tenderness over that area. The conjunctivæ were slightly jaundiced, but no jaundice had ever been noticed at any time by the patient. The urine contained abundance of pus cells and a few red blood cells; it was also slightly tinged with bile. It may be mentioned here that during the paroxysms there had never been any irritability of the bladder. A careful examination of the stools was made, but no biliary calculi could be detected.

A diagnosis of either renal or biliary calculi was made, and the propriety of operative interference suggested, to which the patient readily assented. As it was impossible to decide as to whether the kidney or the gall-bladder was the seat of the trouble, it was decided to first explore the kidney by a lumbar incision, when, if no calculus could be detected, laparotomy would be performed and the gall-bladder explored.

On the morning of the operation, however, it was noticed that the jaundice, which was at first scarcely appreciable, had become more marked and the quanity of bile was increased in the urine. This, together with the fact that a spot of marked tenderness was complained of over the region of the gall-bladder, was sufficient to turn the balance in favor of first exploring the gall-bladder.

Accordingly, the patient was anæsthetized, and, assisted by Dr. Dickson, Dr. Oldshoe, Dr. Burns, Dr. Davis, and Dr. Brockerhoff. I made an incision of about three inches in length through the abdominal walls in the right linea semilunaris, the upper portion of the incision being about one inch from the costal cartilages. The upper surface of the liver, which was enlarged, was exposed in the whole length of the incision, but the finger could be readily passed into the abdominal cavity and along the liver to its anterior border; then hooking up the liver with the finger, the lower surface could be explored. The gall-bladder was found collapsed, its fundus being at least an inch from the anterior margin of the liver. The finger, being passed along the gall-bladder toward the duct, was obstructed by a calculus of about three quarters of an inch in diameter, which was impacted in the cystic duct. An exploration of the right kidney was made before the finger was withdrawn, but it was found normal in size and no calculus could be detected. The abdominal wound was then enlarged downward, so as to admit the fingers of the left hand, with which the anterior border of the liver was pulled upward so as to expose its under surface in the wound.

An incision of about one inch in length was made in the fundus of the gall-bladder. It was noticed that the wall of the gall-bladder was abnormally thick and that no bile escaped from the incision. The extraction of the calculus was attended with considerable difficulty, as it not only seemed to be impacted in the duct, but also encysted, for a firm fibrous membrane surrounding the calculus had to be torn through before the calculus could be seized. Once exposed, the calculus was easily removed by crushing and removal piecemeal; it consisted chiefly of inspissated bile. After washing out the *débris* the incision in the gall-bladder was closed by a continuous catgut suture, and the liver allowed to assume its natural position. The peritoneal toilet was completed in the usual manner, and the abdominal wound closed with silver sutures. The subsequent progress of the case was all that could be desired. The temperature remained normal throughout, with the exception of the second evening, when it was 99° F. Relief from pain and vomiting was immediate, and her convalescence rapid. After the operation the jaundice rapidly disappeared, as did likewise the pus, blood, and bile in the urine.

There are some points of interest connected with this case to which I wish to draw particular attention.

(1) The long duration of the trouble (thirty years).

(2) The absence of marked jaundice at any time.

(3) The presence of blood, pus, and bile in the urine, which obscured the diagnosis between renal and biliary calculi.

(4) The impossibility of suturing the gall-bladder to the abdominal wound on account of its collapsed state and its distance from the border of the liver.

(5) The thickening of the gall-bladder, probably due to hypertrophy of its muscular fibers, caused by repeated ineffectual attempts to expel the calculus.

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### A CASE OF
# CHRONIC INTERSTITIAL HEPATITIS WITH HEMERALOPIA,
## SIMULATING CEREBRAL HÆMORRHAGE.

By S. T. ARMSTRONG, M. D.,
PASSED ASSISTANT SURGEON, UNITED STATES MARINE-HOSPITAL SERVICE.

The appended case presents so many unusual phenomena that it may be permissible to place it on record:

William Braydon, aged forty-three, a native of the United States, sailor by occupation, was admitted to the United States Marine Hospital, New York, on March 20, 1889. He had just arrived in this city from San Francisco *via* Cape Horn. One month after his departure, trouble with his vision at night commenced, the hemeralopia eventually becoming so complete that he was not assigned to watch duty after sundown. The rations furnished were plentiful and of good quality.

The patient was a well-developed male, with dark hair and complexion. He had been drinking when admitted to the hospital. His vision was not quite normal ($\frac{20}{30}$); but nothing abnormal was detected in examination of eye, excepting congested retinal vessels. This was rather unusual, because cases of hemeralopia occur not infrequently among sailors that have recently crossed the equator; but this condition is associated with retinal anæmia. His locomotion was irregular, and he spoke thickly; no local paralysis found. He had a chancre (?) twenty-five years ago; no secondary symptoms. He complained of no nausea or digestive trouble. Appetite fair. He was ordered ten grains of kalium iodide in water two hours after each meal.

On the morning of the 21st he felt fairly well. Had wandered about the ward during the night, apparently unconscious of his actions. As he had not fallen, nor injured himself by striking against objects in the room, the suspicion of malingering arose. He, however, gave a reasonable excuse for his actions.

At three o'clock on the morning of the 22d he fell out of bed, exhibiting convulsive movements of the arms and legs. His eyes were shut. He had involuntary evacuation of the bladder and rectum. At the ward visit, seven hours later, he was unconscious; his breathing was stertorous; the pupils were dilated; the radial pulse full and rapid (108); temperature 37·8° C. (99·5° F.). The urine was examined for sugar and albumin with negative result. The patient remained in the comatose condition for twenty-four hours, when death occurred.

The necropsy was made seven hours post mortem. On removing the calvarium, the meningeal veins were found to be congested. On section, the brain was normal.

Examination of the heart and lungs showed these organs to be normal.

On opening the peritonæum, a small quantity (about 500 grammes—one pint) of ascitic fluid escaped. The liver weighed 1,410 grammes, and presented the hobnailed appearance that exists in chronic interstitial hepatitis. The gall bladder contained about 30 grammes of bile of thin consistence, but usual color. The right kidney weighed 178 grammes; the left, 165 grammes; each showed moderate parenchymatous nephritis. The spleen weighed 606 grammes; it was normal. The stomach showed chronic inflammation of the mucous membrane, and contained a "coffee-ground" colored mucus. The intestines and bladder were normal.

The absence of ascites, œdema of the extremities, and especially of icterus, in a case of this character, is certainly rare. Nothing in the history of the case caused a suspicion of diseased liver.

The prodromal trouble in sleep, walking, and speech, as well as the hemeralopia, led to the sudden comatose condition being considered apoplectic. The convulsions were reported by the other patients, and were not noticed by the assistant, Dr. George B. Young, who was called almost at once. They did not occur a second time.

While no English text-book emphasizes the existence of hemeralopia in chronic interstitial hepatitis, yet a few such cases are recorded.

Dr. J. Cornillon reports ("Rapports de l'héméralopie et de l'ictère dans les hypertrophies du foie," "Prog. méd.," ix, 1881, p. 157; and "De l'héméralopie dans les affections du foie," *ibid.*, x, p. 439) altogether seven cases. In all his cases icterus was present, and he considered the hemeralopia only appeared long after the icterus, diminishing when it was ameliorated, aggravated when it was augmented. In only one case was an ophthalmoscopic examination made; in this there was dilatation of the veins of the retina, fine and exsanguinated arteries, and in the neighborhood of the principal trunk and its ramifications was an intense œdema, as if that region was strewn with white, milky spots. There were no pigmented or hæmorrhagic spots.

Parinaud reports ("De l'héméralopie dans les affections du foie," etc., "Arch. gén.," 1881, p. 413) three cases of hemeralopia associated with enlarged livers; nothing appreciable in the fundus of the eye. This author states that these associated conditions have been recognized for a long time, and he suggests that the treatment of hemeralopia by the ancients, by administering the liver of calves or sheep, was in consequence of their knowledge of the associated conditions.

As the works on diseases of the eye do not refer to hemeralopia consequent upon diseased liver, it may be well to emphasize that point here, so that those having cases of hemeralopia will examine into the condition of the liver.

## A CASE OF DRY LABOR.

By H. R. COSTON, M. D.,
LINCOLN, TENN.

The following case, occurring in my practice, is probably deserving of being placed on record:

On the evening of April 13th I was called to see Mrs. H., aged twenty-three, supposed to be in labor with her second child. I found the uterine contractions very short and irregular. Upon making a vaginal examination, I found the pelvis large and roomy, the soft parts lax and well lubricated, but no dilatation of the os. The symptoms soon passed off and labor did not supervene for over two weeks. But upon this first visit I was surprised to learn that the membranes had ruptured on the night of the 16th of March. I expressed the hope that this had been an extra-amniotic sac, and that there was probably a small amount of water yet present, as the movements of the child were very free and strong. She informed me, however, that her "waters had broken ten days before labor came on in her first pregnancy." She attributed the rupture of the membranes in her first pregnancy to a strain received while trying to use the syringe for the purpose of evacuating the bowels, as they ruptured while she was in the act of giving herself an injection.

In the present instance, however, they had ruptured during sleep, she being aroused by it, herself and husband as well as the bedding being wet by the fluid, there being a considerable quantity. No symptoms of labor presenting themselves save the rupture of the membranes, and remembering her first experience, she had called no physician at the time. Feeling greatly interested in the case, the patient being quite an intelligent woman, and living next door to my office, I gave the case close attention until the time that labor developed, April 30th.

The labor only lasted about three hours and a half, and during the time I never left the bedside a moment for anything whatever. During the progress of labor there was no pouch found, and through the dilating os uteri I could determine positively that there was no membrane of any kind between my finger and the occiput. A portion of the membranes were expelled some minutes before the child was born, which further convinced me that the membranes had long since ruptured.

In this case we find that it was about forty-five days from the time the membranes ruptured until labor commenced.

Yet when it did come on it was comparatively short and easy, there being but a small amount of blood lost and an eight-pound male child born. Up to this writing (May 7th) there has never been a bad symptom developed, the mother rapidly regaining her strength and the child doing well.

## Correspondence.

### LETTER FROM CINCINNATI.

*The Obstetrical Department of the Cincinnati Hospital.—The Acid Salts of Phosphorus in the Disorders of Digestion.*

CINCINNATI, *May 6, 1889.*

The obstetrical report of the Cincinnati Hospital for the past year shows that two hundred and twenty-four women were delivered, of which number one hundred and fifty-one were primiparæ. Thirty-nine were delivered of the second, thirteen of the third, twelve of the fourth, four of the fifth, two of the sixth, one of the seventh, one of the eighth, and one of the ninth child. The average duration of labor in primiparæ was, for the first stage, fourteen hours and five minutes; for the second stage, four hours and forty-five minutes; and for the third stage, seventeen minutes. In multiparæ the average duration was, for the first stage, eleven hours and eleven minutes; for the second stage, five hours and ten minutes; and for the third stage, fourteen minutes. The presentations in primiparæ were one hundred and forty vertex, six breech, three shoulder, one arm, and one foot; and in multiparæ, sixty-eight vertex, four breech, and one foot. The positions in primiparæ were ninety-eight left occipito-anterior, thirty-three right occipito-anterior, six right occipito-posterior, one left occipito-posterior, three right dorso-anterior, two left dorso-posterior, one right dorso-posterior, and seven unknown; and in multiparæ, forty-two left occipito-anterior, fourteen right occipito-anterior, six right occipito-posterior, two left occipito-posterior, two right dorso-anterior, two left dorso-anterior, and five unknown.

Primiparæ gave birth to seventy-four males and seventy-seven females. In one case the sex was not reported. There was one case of twins—male and female. Multiparæ gave birth to forty males and thirty-five females. There was also a case of twins, both males, and one case of a male and female. The average weight of the male children of primiparæ was seven pounds and twelve ounces, and the average length eighteen inches and five sixths. The female children had an average weight of seven pounds and an average length of eighteen inches. The average weight of the male children of multiparæ was seven pounds and the average length eighteen inches and one sixth. The female children had an average weight of seven pounds and eight ounces, and an average length of eighteen inches and one twelfth. The heaviest male child weighed ten pounds and eight ounces, and the lightest two pounds. The heaviest female child weighed ten pounds, and the lightest two pounds.

In seventeen cases the cord was wound about the child's neck, and in the case of one primipara, in which the cord was forty-eight inches long, it was wound twice about the neck and once around the body of the child. In the case of one multipara the cord, which was thirty-two inches in length, was wound twice about the child's neck. Four patients were attacked with typhoid fever within a week after delivery, and were transferred to the medical ward. There were sixteen cases of abortion, two occurring at two months and a half, one at three months, two at four months, one at four months and a half, one at five months, and nine at an unknown period of gestation. Two were the result of falls, one was caused by medicines, and thirteen were from unknown causes. In the case of one primipara, at the sixth month, in which there was a shoulder presentation, the child was expelled by spontaneous evolution. In one case of premature birth artificial respiration was maintained for five minutes, but the child died seven hours after. There were forty-one slight lacerations of the perinæum, one slight externally and deep internally, and fifteen to the sphincter ani. In forty-five cases the lacerations were cured with silk suture, in four with catgut, and in one with wire, and in seven cases no sutures were required.

In one case, that of a primipara, the head of the child was delayed in the vulva an hour and a half, but was finally extracted over a rigid perinæum, which sustained a slight cutaneous and a deep mucous laceration. In another primipara the child's head rested on the perinæum for a period of five hours, with the right arm curved over the face. It was expelled by abdominal pressure, with but slight laceration of the perinæum. In the case of a multipara a still-born child was extracted by podalic version. The woman's pelvis was contracted, and measured two inches and seven eighths. One primipara had post-partum hæmorrhage, which was arrested by the employment of ice. Inflammation of both breasts supervened. In one case, occurring in a multipara, in which the second stage was of long duration, the low forceps-operation was performed. There was laceration of the perinæum to the sphincter ani. In one case of protracted labor the woman was delivered with the forceps, with slight laceration of the perinæum. Post-partum hæmorrhage occurred in this case. In one case, when the head reached the perinæum, the patient became almost maniacal, and was delivered under chloroform. In one case, in which long duration of the second stage and rigidity of the perinæum rendered the use of forceps necessary, the perinæum was lacerated to the sphincter ani, and there was considerable hæmorrhage from a small artery.

In the case of a twin pregnancy, occurring in a multipara, in which there were two placentæ, each child being enveloped in its own amnion and chorion, the membranes covering the second child were ruptured ten minutes after the birth of the first, and the placentæ were extracted together fifteen minutes after the birth of the second child. There was slight laceration of the perinæum. One primipara had double vagina and double cervix uteri, with a common uterine cavity. The intercervical and the intervaginal septa were entirely destroyed during labor. A primipara who was admitted during the second week of an attack of typhoid fever, and who thought she was only six months pregnant, gave birth to a child which had the appearance of one of eight months and a half. Hæmorrhage from lacerated cervix was controlled with ice. In a twin pregnancy, in a multipara, of from six to six months and a half of utero-gestation, each child was enveloped in its own membranes, and there were two placentæ, which were removed in five minutes after the birth of the second child. The placentæ had a marginal attachment, and there was some ante-partum hæmorrhage from partial placenta prævia. In one primipara a large clot was adherent to the external surface of the placenta, and the labor was followed by a severe hæmorrhage, which was checked by the use of ice and ergotine. The social conditions of the women were as follows: One hundred and thirty-three were unmarried, thirty-four were married, ten were widows, and in two the social condition was unknown. Their ages ranged from fifteen to thirty-nine years, and the age at which they first menstruated, from the eleventh to the twentieth year.

Dr. Joseph Eichberg, president of the Cincinnati Medical Society, read a paper recently on the acid salts of phosphorus, which was intended to call special attention to their value in disorders of digestion. The value of the element phosphorus in the various compounds was referred to; its physiological uses in alkaline, acid, and earthy combinations were illustrated; and a comparison was instituted between the nitrogen and phosphorus radicles, as shown by the varying affinity for oxygen. It was stated that this fact alone was proof of the important *rôle* played by any chemical in the tissue changes of the body, the apparent readiness of change from one form of acid radicle to another being observed only in those elements whose functional activity was great. In regard to the form of administration of phosphorus, attention was called to the fact that this varied with the nature of the disease. The hyphophosphites in phthisis and wasting diseases, the phosphate of zinc and phosphorus itself in emulsion for nervous diseases, and the acid salts of phosphorus for digestive disturbance, were the forms in which the greatest benefit would be derived from the use of the remedy. Phosphoric acid and its compounds possessed an advantage over the other mineral acids in that, even in a concentrated form, they were essentially non-corrosive. Considerable benefit had been derived from a compound called "crystallized phosphates."

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NEW YORK, SATURDAY, MAY 25, 1889.

## THE PLACE OF MEDICAL WOMEN.

As objects of criticism and discussion, medical women are continually coming to the front. The energies and wit of mankind are spent without stint in an effort to assign them to their proper place. Nowadays it is conceded that they have a place, though it is not very many years since a Boston physician, presumably well versed in the ways of Providence, declared gravely that God never intended women to practice medicine. Hence the inference that piety, if nothing else, demanded their exclusion from the Massachusetts Medical Society. And only the other day our friends of the Quaker City awoke to a realizing sense that there was no good reason why a properly educated and legalized woman practitioner should not be admitted to membership in their county society. This conclusion was the growth of years, and the vote was a close one. The surrender on the part of the opposition seems to have been at once graceful and humorous, for the advocates of the admission of women into the Philadelphia County Medical Society say: "We owe the election to the forbearance, good-will, and great-heartedness of our friends, who have for so many years successfully opposed our efforts to gain recognition of our women physicians in that body."

In a recent issue of this journal reference was made to Professor Waldeyer's address before the Assembly of German Naturalists and Physicians, in which he says complimentary things of Louise Bourgeois, Marguerite de la Manche, Marie Louise Chapelle, and others eminent in the practice of midwifery. He admits that the healing art was at one time for centuries in the hands of women, and recognizes their valuable contributions to medical literature. Yet women, he maintains, in spite of abundant opportunities, have never advanced medical science, nor in any art created a masterpiece, and in music have failed to do anything that might immortalize a name. Like Mrs. Tulliver, our excellent professor seems to consider them poor foolish bodies of little account, without adding that honest dame's shrewd saving clause: "God made 'em to match the men!" Unwelcome in laboratories, because awkward, careless, and easily discouraged, the unbusiness-like women students besiege the assistants with questions upon trivial matters, and appear to be altogether unlovely. In colleges devoted to the instruction of men their presence is a hindrance to teachers and students alike. Charcot is quoted as saying that women think more of themselves than of humanity. They consent reluctantly to assume subordinate positions, and they are too ambitious, aspiring immediately to the front rank and great prominence. Debarred from their natural *rôle*, the rearing and fostering of children—which, by the way, has nothing whatever to do with the question at issue—women doctors have no future before them, and can never be more than the exception. Yet the author gives them credit, oddly enough, for excellent memories, close attention to lectures, and frequent ability to pass better examinations than men. According to this showing, it would appear that age can not wither nor custom stale the infinite variety of medical women. They are credited with a range of qualities sufficiently diverse and interesting, if not attractive. The address seems to imply that women physicians—that is, some women—are well enough in their place, but that the place is undefined, and does not readily assume the proportions of a local habitation.

Nearer home, Dr. Leonard Weber, discussing with admirable clearness and sound sense a question concerning the practice of medicine, remarks incidentally: "I am not opposed to women physicians, but I think they ought to practice in fields that are suitable to them, such as diseases of women and children, for instance; their field is necessarily limited." Between this statement and that of the Boston man there is certainly a vast difference. Yet in a way the two bear an unmistakable family resemblance. Who knows positively that the field of medical women is necessarily limited? Upon what data is such a supposition based? Up to the present time women physicians can hardly be said to have had a field—it were better to call it a narrow path. To judge of failure or success along given lines of effort without the liberty to act freely in these specified directions is quite beyond the limits of human reason. The proposition is not to be entertained. Positive opinions in regard to what women can do or can not do in the professions have not the same weight to-day as they may have in the coming time when all barriers may be broken down, and every opportunity and encouragement given to women to fight out the matter to a successful or unsuccessful issue themselves. Then, and not till then, will it be possible to measure the size of this particular field accurately. At present, opinions upon the subject appear more in the light of preferences of perfectly chivalrous, honest intent, and expressed with the kindest motives—but preferences all the same, the personal equation being the largest factor.

The place of educated women in the medical profession would seem to correspond in a general way to that of educated women in the community at large. Earnest women of well-trained minds have an instinct for reform; they unearth the forgotten things, and give time and attention to wearisome details that men have not the inclination—perhaps not the ability—to undertake in serious part. The importance of such endeavor no one denies. It is as essential to progress as the creative faculty, and seems, in fact, its correlative and complement. The things overlooked in medicine certainly constitute a portion of the medical woman's sphere. Unfortunately, they are not confined to the treatment of diseases peculiar to women and children; they exist in every special department, as the attentive listener and observer may readily convince himself—or rather herself—by careful attendance at various medical meetings. The little things are often the great things, and they are worth speaking about and writing about; and medical women who have thus brought them into notice have done good work. In regard to needed reform, they have not been backward. On the contrary, they are often pioneers. The instruction of other women in matters of health and more satisfactory living has been largely through their efforts. The more rational dress of to-day, together with the simpler, more natural methods of domestic life that now prevail, must be ascribed in great measure to the influence and teachings of the woman physician. The application of principles for the welfare of humanity gives, on the whole, a place not altogether unworthy of the best human effort, whether masculine or feminine. As a teacher, the medical woman stands at the point of power. It is largely through her personal attention and persistent energy that education, especially the education of girls, is beginning to receive the careful consideration that the subject demands. If education in America can be so revolutionized that it compares favorably with the other practical advances of the nineteenth century; if women attain greater health and happiness; if principles now overlooked are more carefully applied in the treatment of disease and the relief of suffering; if children are shielded and allowed to develop in a natural harmonious way; if domestic life is ennobled by the application of great truths to small events; and if this consummation, devoutly to be wished, is due to the direct and indirect influence of medical women—they may be said, without undue exaggeration, to occupy a position of extreme value and dignity, even though it should fail to assume the proportions of a field. Perhaps not the least advantage of women in medicine is that their existence proves the vitalizing effective force of careful intellectual discipline, and the possibility of their fulfilling arduous and urgent duties without loss of health.

## SO-CALLED VARICOCELE IN WOMEN.

Dr. A. Palmer Dudley, of New York, read a paper entitled "Varicocele in the Female: what is its Influence upon the Ovary?" at last year's meeting of the Alumni Association of the Woman's Hospital. Dr. Dudley's paper was published in full in our issues for August 11 and 18, 1888, and an account of the discussion that followed its reading was given in the number for August 18th. Like several authors before him, Dr. Dudley applied the term varicocele to varicosities of the veins of the broad ligament of the uterus. His conclusions were that such a condition was not rare; that it was produced by long-continued congestion, the most important factors being arrested uterine involution and chronic constipation; that it might be mistaken for inflammation of the uterine annexa, from which it was to be distinguished by careful rectal examination of the broad ligament, when masses feeling like earthworms could be detected; that it was capable of producing functional impairment and structural changes in the ovary, such as atrophy of the stroma, cystic degeneration, and consequent sterility; that when it had become confirmed (meaning, it is to be presumed, that it had assumed the condition of true varicosity as distinguished from temporary dilatation) no lasting benefit could be produced by means of ordinary local treatment, such as counter-irritation, tamponing, the use of pessaries, and depletion; and that the removal of the dilated veins by laparotomy, of which procedure the author reported four cases, was sometimes a justifiable operation, even in women who had passed the menopause.

Dr. Dudley's paper opened with the statement that he had been led to the researches that had culminated in these conclusions by reflecting on a paper read before the same association two years before by Dr. Henry C. Coe, entitled "The Exaggerated Importance of Minor Pelvic Inflammations," and especially on Dr. Coe's remark that certain thickenings, increased tension, etc., that were commonly found on examination during life, and promptly entered in clinical records as evidences of cellulitis, frequently vanished after death, when the natural tension of the tissues had disappeared. Dr. Coe, who was not present at the discussion of Dr. Dudley's paper, has come out in the May number of the "American Journal of Obstetrics and Diseases of Women and Children" with an article entitled "So-called 'Varicocele' in the Female," in which he argues to conclusions quite at variance with Dr. Dudley's. True varicocele in women, he says (meaning permanent dilatation of the veins of the pampiniform plexus), is seldom met with post mortem, and therefore must be rare; neither in its ætiology, in its anatomy, nor in its symptomatology can varicose enlargement of the veins of the broad ligament be regarded as closely analogous to the varicocele of men, the anatomical conditions being widely different in the two sexes; it is not alone long-continued congestion (from displacements or other abnormities) that should be taken into account in searching for the causes of such venous dilatation, but also changes in the walls of the veins and in the surrounding connective tissue due to antecedent phlebitis of uterine origin, puerperal or traumatic; it is exceedingly doubtful if atrophy of the ovary can be traced to venous dilatation, although that condition and ovarian disease may be due to a common cause, such as surrounding adhesions; there is no evidence that varicosity of the veins of the broad ligament gives rise to any peculiar symptoms; so-called varicocele ought not to be mistaken for cellulitis or resulting indurations, since the former should occupy the upper portion of the broad ligament, while the latter are usually found at its base, and the discovery of dilated veins on opening the abdomen does not necessarily prove that they were the objects felt before the operation; and varicose enlargement of these veins is not a sufficient indication for laparotomy, for all the affected veins can not be removed without ligating or excising nearly the whole of the broad ligament—"a dangerous procedure that has led to most of the fatal cases of secondary hæmorrhage," and laparotomy is certainly not justifiable after the menopause, when the quiescent state of the pelvic organs seems to favor a spontaneous cure.

As Dr. Coe states, the subject of the varicose enlargement of the veins of the broad ligament is often mentioned by gynæcological writers, the condition having been first described by Richet, who termed it *varicocèle ovarien.* It seems to us, however, that Dr. Dudley did a good work in studying it more thoroughly than had been done before, even if we side with Dr. Coe's conclusions rather than with his, as we are inclined to do.

## *MINOR PARAGRAPHS.*

### BORIC ACID FOR THE PRESERVATION OF URINE.

The "Lancet" states that Dr. M. Wendringer recommends the use of a solution of borax and boric acid to prevent the fermentation of urine that is to be examined microscopically, and to keep the urates dissolved. The urine is placed in a conical glass, and from a fifth to a third of its bulk is to be added to it of a solution prepared by mixing 12 parts of powdered borax in 100 parts of hot water, adding a like amount of boric acid, stirring the mixture well, and filtering while hot. Some crystals are deposited, but they cling to the side of the vessel and do not destroy the transparency of the liquid. The mixture of urine and solution is to be shaken, and it will soon become clear if there is no cloudiness due to bacteria. If the urine is to be preserved for a day or two only, a smaller proportion of the solution may be used.

### THE INFLUENCE OF THE PARENTS' AGE ON THE CHILD'S CONSTITUTION.

The "Union médicale" states that a learned Hungarian has concluded, from the observation of nearly 25,000 cases, that the children of very young fathers and mothers have a feeble constitution, that those of old fathers and mothers are in the same predicament, and that the most robust children are those of fathers over thirty-five years old and younger mothers. From the scientific point of view, therefore, it is well for men of middle age to marry young women, as the *vaudevillistes* and the Arabs have always maintained.

### THE JUBILEE OF THE ALBANY MEDICAL COLLEGE.

The "Albany Medical Annals" for April is a double number, largely given up to the semi-centennial celebration of the medical college. The address, by David Murray, LL. D., Secretary of the Board of Regents of the University of the State, is historical and biographical in character, and presents quite a picture of the struggle for medical education in northern New York before the days of many railroads and before the clinical element in teaching had driven the schools to the cities where the large hospitals exist. The old college of Fairfield, Herkimer County, whose very existence is a thing unknown to a large part of the New York profession, was in its day an important and thriving institution. Dr. Murray's sketch of it shows that its financial corner-stone was a lottery, permitted by the Legislature in order to raise the sum of $15,000—a method in those days considered to be entirely legitimate. Many will be surprised to hear that there was a flourishing school in the northern wilds of New York for a period of thirty years, which matriculated 3,018 students in that time and sent out 555 graduates. Among the names of the professors at Fairfield appear those of Romeyn Beck, Lyman Spalding, Westel Willoughby, James Hadley, James McNaughton, R. D. Mussey, and Frank H. Hamilton, some of whom subsequently became "a tower of strength to the Albany school." Dr. William C. Wey, of Elmira, president-elect of the Albany Alumni Association, spoke entertainingly of the times and the men of forty years ago. Dr. W. H. Bailey, of Albany, also delivered an address descriptive of the early struggles of the college. These, with other papers and a banquet, conspired to make memorable the close of the fiftieth anniversary of the institution founded by Dr. Alden March and Dr. Armsby. As an indication of the amount of public spirit evinced toward the founding of the school in 1839, it may be stated that the citizens contributed the sum of $10,000 for the necessary buildings. Stephen Van Rensselaer gave $500, and others gave $100 each, but a large part of the sum dripped into the treasury in subscriptions of ten dollars each. Those were times that tried men's zeal and courage and patience.

### ALLEGED MURDER WITH CHLORAL.

A youth named Pardon, who had been condemned to death at Manchester, England, for the alleged murder of a gentleman in a cab by means of chloral, has been reprieved. The "Lancet" states that a petition in his behalf was signed by 20,000 persons, and a recommendation to mercy by both judge and jury. The analyst could only prove the presence of a small quantity of chloral in the tissues of the deceased. The latter was under the influence of alcohol at the time of the giving of the chloral, and his system was far from being in a healthy condition, owing to chronic alcoholism. The "Lancet" remarks that there is great room for a revision of the methods of testing for chloral in cases where it has been employed for a homicidal purpose.

### MEDICAL ATTENDANCE ON WOMEN IN INDIA.

The fourth annual report of the association in Great Britain for supplying female medical aid in the eastern dependencies of the empire shows really marvelous progress, according to the "American Practitioner and News's" London correspondent. In all parts of India the work is being advanced and has resulted in not fewer than twenty-seven dispensaries or hospitals, including the magnificent Cama Hospital at Bombay. At the hospital in Burmah a large percentage of the cases are obstetrical and many of the patients are able to pay for treatment. The obstacles of prejudice and race and custom seem to be diminished in a marked degree, especially among the Burmese women, who are everywhere eagerly availing themselves of the foreign medical help offered them. Very many of the patients reaching the new Burmah Hospital were brought thither in a critical condition, owing to the incompetence of the native midwives. The ultimate aim of this association is the raising up of a class of Indian women practitioners, and some progress has been made. There are now as many as two hundred and twenty female medical students. At the half-yearly examination at Hyderabad two of the lady students passed at the head of their class. At all the various medical schools and colleges the number of native women students is constantly increasing.

### ELECTRICITY AS A CURE FOR CANCER.

Surely, of the wonderful effects ascribed to electricity there seems to be no end. Dr. J. Inglis Parsons, of London, thinks that he has found in that agency a means of rendering cancer inert. His idea is that cancer cells, although they grow like noxious weeds and choke the normal elements, are really of a lower vitality than the latter, and hence are susceptible of destruction by electrical currents that the healthy cells are able to withstand. He has tested his theory in four cases, which he reports in the "British Medical Journal" for April 27th. The patient is anæsthetized, and the current is passed through the tumor and all the tissues for some inches round it by means of fine insulated needles, so as not to injure the skin. A battery of seventy cells is used, with an electro-motive force of 105 volts. To begin with, a current of an intensity of 10 milliampères is employed, and this is gradually increased to 600 milliampères, being "flashed through the growth in every direction from 50 to 100 times, according to circumstances." In only one case was it considered unsafe to use a current of more than 250 milliampères, and that was one of mammary cancer in a woman, sixty-three years old, who had a presystolic bruit and a weak, intermittent pulse; and even she was able to endure a current of 600 milliampères passed through a secondary growth in the axilla. It is not so much to the strength of the current, although that seems to be essential, as to its sudden interruptions that the destructive effect on the cancer cells is attributed. The tumor does not disappear altogether, but remains as an inert mass; at least, in the cases reported, the growths remained quiescent for periods varying from three months and a half to six months. In case of recurrence, the author states, he would not hesitate to use a current of still greater intensity. It is said that the patient is usually able to go about his customary employment on the day following the operation.

### THE ALLEGED ANÆSTHETIC EFFECT OF ARTIFICIAL LOCAL ANÆMIA.

The increased anæsthetic powers of such alkaloids as cocaine and erythrophlœine when injected into a part that has been rendered bloodless by means of Esmarch's bandage or some other contrivance to accomplish the same end have been said by some to be more apparent than real, the anæsthesia being alleged to be really due to the anæmia alone. To settle the point, Karewski, of Berlin ("Therapeutische Monatshefte"; "Deutsche Medizinal-Zeitung"), has tested the sensibility of parts that have simply been emptied of their blood, without being subjected to the action of any drug. He finds that certain paræsthesiæ are caused, but that the sensibility to heat and cold is unimpaired, that the tactile perception is sufficient to enable the subject to distinguish the contact of a blunt object from that of a pointed one, and that the sensitiveness to painful impressions, far from being suspended, is rather intensified. Anæmia, then, is not an anæsthetic.

### FŒTAL MOVEMENTS SUPPOSED TO BE RESPIRATORY.

As our readers have been informed, Professor Ahlfeld, of Marburg, maintains that certain rhythmical fœtal movements observed by him are of a respiratory character. Under Ahlfeld's direction, Dr. Heinrich Weber has made further observations bearing upon the subject, using an apparatus consisting of a funnel with its broad end applied to the mother's abdomen at the site of the greatest intensity of the movements, and communicating by means of rubber tubing with a Marey's tambour, so as to make tracings showing the movements of the abdominal wall. Weber has published an essay on the subject, in the form of a graduation thesis. He finds that the movements in question consist either of quick impulses, from eight to twenty-six in a minute, or (more commonly) of gentler but more rapid undulations, as many as seventy-six in a minute; and that both forms are rhythmical. In eighty examinations of fifty-four pregnant women, he has observed the more rapid movements fifty times. They last for several minutes, and in two instances they continued, with slight interruptions, for forty-five minutes. The thirty-second week of gestation is the earliest period at which he has detected them. The curves traced with his apparatus are said to bear a striking resemblance to those of the respiratory movements of new-born infants. Dr. N. Zuntz, of Berlin, who prepared the summary of Weber's thesis for the "Fortschritte der Medicin," adds the remark that, in animals whose uteri have been opened under water, rhythmical respiratory movements of the fœtus are never observed so long as the placental circulation is not materially disturbed.

### THE ARTIFICIAL CICATRIZATION OF OPEN CANCERS.

Several methods of bringing about the temporary cicatrization of open cancers that are beyond the reach of a radical operation are described in recent issues of the "Münchener medicinische Wochenschrift," by Kraske and Lauenstein, and their articles are summarized in the "Centralblatt für Chirurgie." Kraske reports four cases in which several months of comfort were afforded the patients; in three of them by a plastic operation after shaving off the fungous mass to a level with the surrounding skin, and in the other by skin-grafting. Lauenstein states that he has employed skin-grafting successfully after reducing the exuberant excrescence by applications of savine and burnt alum, followed by methodical antiseptic dressings. He has also seen complete cicatrization of the cervix uteri take place after erasion.

## ITEMS, ETC.

**The American Laryngological Association** will hold its eleventh annual congress at the Arlington, in Washington, on Thursday, Friday, and Saturday, May 30th and 31st and June 1st, under the presidency of Dr. Ethelbert Carroll Morgan, of Washington. Besides the president's address, the programme includes the following: "Report of the Removal of a Supernumerary Tonsil," by the president; "An Œdematous form of Disease of the Upper Air-Passages," by Dr. W. C. Glasgow, of St. Louis; "The Relation between Facial Erysipelas and Erythema, on the one hand, and Intra-nasal Pressure, on the other," by Dr. G. W. Major, of Montreal; "Acute Multiple Adenitis (Septic?), Œdema of the Larynx, with Spontaneous Cure—Laryngoscopic Appearances," by Dr. S. W. Langmaid, of Boston; "Some Points in the Pathology and Treatment of Diseases of the Nasal Pharynx," by Dr. J. N. Mackenzie, of Baltimore; "Observations upon the Condition known as Adenoid Hypertrophy at the Vault of the Pharynx, and the Methods used for its Relief," by Dr. D. B. Delavan, of New York; "Three Rare Cases," by Dr. G. M. Lefferts, of New York; "Warts in the Nasal Passages," by Dr. E. F. Ingals, of Chicago; "Some of the Manifestations of Syphilis of the Upper Air-Passages," by Dr. T. A. De Blois, of Boston; "Note on the Galvano-cautery in the Treatment of Hypertrophied Tonsils," by Dr. C. H. Knight, of New York; "The Treatment of Diseased Tonsils when unattended with Hypertrophy," by Dr. J. O. Roe, of Rochester; "Experimental Methods of Studying the Actions of the Intrinsic Muscles of the Larynx," by Dr. F. H. Hooper, of Boston; "Dysphonia Spastica," by Dr. F. I. Night, of Boston; "A Case of Sarcoma of the Thyreoid Gland," etc., by Dr. J. Solis-Cohen, of Philadelphia; "Memorandum of a Recurrent Laryngeal Growth appearing twenty-two years after Removal," by Dr. R. P. Lincoln, of New York; "Some Unusual Manifestations of Tuberculosis of the Larynx," by Dr. C. C. Rice, of New York; "Report of Two Cases of Tuberculosis of the Tongue," by Dr. C. E. Bean, of St. Paul; "The Advantages of Occasional Applications of Silver Nitrate in Chronic Laryngitis," by Dr. S. Solis-Cohen, of Philadelphia; "Some Manifestations in the Throat of Lithæmia and Allied Conditions," by Dr. F. W. Hinkel, of Buffalo; "On the Local Treatment of Diphtheria," by Dr. J. C. Mulhall, of St. Louis; and "Hæmorrhage from the Larynx," by Dr. W. Porter, of St. Louis. The annual dinner will be given at the Arlington on Friday evening, and there will be an excursion to Mount Vernon after the adjournment on Saturday.

**Recent Deaths.**—Dr. George F. Adams, formerly a resident of Brooklyn and surgeon of the First Long Island Regiment, died at Medfield, Mass., on the 10th inst., aged eighty-six years.

About two years ago, while a resident of St. Louis, he was stricken with paralysis, and, being admonished to withdraw from business, he retired to the farm at Medfield, where he was born, to pass the remnant of his days.

Dr. John Leland Miller died at Sheffield, Mass., on the 16th of April, aged seventy-seven years. He was a surgeon in the Mexican War. He was considered the wealthiest citizen of his town and was known to be a generous giver, especially to Williams College. He had been a member of the Massachusetts Medical Society since 1851 and president of the Housatonic Agricultural Society for several terms.

Dr. William Neilson, the oldest practitioner of Salem, Mass., died on the 3d inst., after a very short illness. He had been for many years a member of the attending staff of the Salem Hospital and had been the city physician in former years. He had recently passed his eightieth birthday.

**The "Journal of the American Medical Association."**—We learn that Dr. William G. Eggleston, who has for several years been a member of the editorial staff, has retired from his connection with the journal.

**The Hospital Graduates' Club,** of New York, had its fourth annual dinner at the Hotel Hungaria on Thursday evening, the 16th inst., the president, Dr. A. B. Townshend, in the chair. An anniversary address was read by Dr. John S. Hawley. The club is composed of former members of the house staff of one or more hospitals. Its present members represent the New York Hospital, Bellevue Hospital, Charity Hospital, St. Luke's Hospital, the Roosevelt Hospital, the Presbyterian Hospital, the Chambers Street Hospital, St. Francis's Hospital, St. Vincent's Hospital, the State Emigrants' Hospital, the Woman's Hospital, and the Nursery and Child's Hospital, of New York, and the Charity Hospital, of New Orleans.

**The Central New York Medical Association,** representing the counties of Cayuga, Chenango, Cortlandt, Genesee, Livingston, Madison, Monroe, Onondaga, Ontario, Orleans, Oswego, Seneca, Wayne, Wyoming, and Yates, held its twenty-first annual meeting at Syracuse on Tuesday, the 21st inst., under the presidency of Dr. William Curtiss Bailey. The programme included papers or participation in discussions by Dr. E. V. Stoddard, Dr. Ely Van de Warker, Dr. John Van Duyn, Dr. P. M. Wise, Dr. Louis A. Weigel, Dr. Milton Josiah Roberts, Dr. Gregory Doyle, Dr. E. F. Marsh, Dr. Byron De Witt, Dr. H. D. Didama, Dr. John O. Roe, Dr. William H. Daly, Dr. Henry L. Elsner, Dr. Nathan Jacobson, and Dr. J. W. Putnam.

**The Emanuel Sisterhood of Personal Service,** of New York, has been incorporated. Its object is to direct and aid its members who desire to devote a portion of their time to visiting the sick and caring for young children.

**Change of Address.**—Dr. B. Farquhar Curtis, to No. 35 West Thirty-first Street.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 18, 1889:*

Whiting, Robert, Passed Assistant Surgeon. Ordered to the Receiving Ship Minnesota.

Harmon, G. E. H., Surgeon. Detached from the Naval Academy and ordered to the Constellation.

Lowndes, C. W. F., Assistant Surgeon. Detached from the Naval Academy and ordered to the Constellation.

Arnold, W. F., Assistant Surgeon. Detached from the New Hampshire and ordered to the Pinta.

Rush, C. W., Passed Assistant Surgeon. Detached from the Pinta and to proceed home and wait orders.

McClurg, W. A., Surgeon. Ordered to the Bureau of Medicine and Surgery.

Stilt, E. R., Assistant Surgeon. Detached from the Bureau of Medicine and Surgery and ordered to the New Hampshire.

Eckstein, H. C., Surgeon. Ordered to the Marine Rendezvous, Philadelphia, Pa.

Bradley, M., Medical Director. Detached from the Marine Rendezvous, Philadelphia, Pa., and to continue on special duty, Philadelphia.

Ruth, M. L., Surgeon. Granted another year's leave.

**Society Meetings for the Coming Week:**

Monday, *May 27th:* Medical Society of the County of New York; Boston Society for Medical Improvement; Lawrence, Mass., Medical Club (private); Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *May 28th:* Arkansas State Medical Society (Pine Bluff); New York Academy of Medicine (Section in Laryngology and Rhinology); New York Dermatological Society (private); Buffalo Obstetrical Society (private); Medical Societies of the Counties of Queens (annual—Mineola) and Rockland (annual), N. Y.; Boston Society of Medical Sciences (private).

Wednesday, *May 29th:* Auburn, N. Y., City Medical Association; Medical Society of the County of Monroe (annual—Rochester), N. Y.; Berkshire, Mass., District Medical Society (Pittsfield).

Thursday, *May 30th:* Cumberland, Me., County Medical Society (Portland).

# Proceedings of Societies.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Meeting of March 25, 1889.*

The President, Dr. A. S. Hunter, in the Chair.

**The Ætiology of Fibrinous Pneumonia.**—Dr. August Seibert read a paper with this title devoted to the evidences of an infectious element in the causation of ordinary pneumonia. It was only within twenty years, and mainly within ten years, past that the invasion and growth of infectious material in the body had been looked to for an explanation of epidemic and endemic appearances of pneumonia, and of the occasional occurrence of purulent complications and of the form of pneumonia called migratory. The so-called one-day pneumonia, with its fall of temperature twenty-four hours after the initial chill, while dullness, bronchial respiration, and rusty sputa were observable several days longer, had been observed only since 1877, and had furnished further material for consideration and for doubt that a simple inflammation due to exposure to cold was all that was present in such cases. Then statistics concerning the relative frequency of pneumonia among soldiers when in the field or in barracks, among sailors, among those who went on Arctic expeditions, and finally among the inmates of prisons, convents, and boarding schools, had appeared, all coinciding in showing that persons leading an outdoor life, exposed often to bad weather, were in far less danger of being attacked by pneumonia than those spending most of their time indoors. These statistics had, in fact, shown that a liability to pneumonia increased in exact proportion to the time spent in closed rooms. Investigations had shown pneumonia to be most common among aged people and young children, and not young adults, as had always been supposed. In a certain epidemic of pneumonia among children under five years of age it had appeared that two thirds of them had not been out of doors for a long time previous to their illness.

The endemic and epidemic appearances of pneumonia had attracted attention since 1875, when Kühn first published an essay on an epidemic in a Bavarian prison, in which most of the cases presented the pleuro-pneumonic type, often complicated by pericarditis and typhoid cerebral symptoms. Müller in 1877 had reported the occurrence of pneumonia in three out of four inhabitants of a small house and in two relatives who had been visiting there; Ritter, in five persons, who inhabited a single house, within five days and in two visitors there; Bielinski, in nine of ten persons living in a house with only two rooms, within two weeks; Daly, in six of eight persons living in one house.

Attempts to produce pneumonia by forcing dry cold air into the lungs of animals had always failed. Efforts to determine the weather influences bearing on the frequency of the disease had been made, and had led to the fact that pneumonia was most prevalent in weather which favored catarrhal inflammations of the air passages. Low and falling temperature, high and rising humidity, and high winds were each alone capable of furnishing this influence. In Davos, with its cold dry climate, pneumonia never appeared until the melting of the snow in the spring. Taking up the direct evidences of the presence of a bacillus in pneumonia, the speaker quoted Sänger as having found Friedländer's pneumococcus in the lungs in all his fatal cases, as well as in the organs suffering from complicating inflammations (meningitis, pleurisy, endocarditis, nephritis, and pericarditis). Emmerich, after an epidemic in a prison in which 161 out of 1,150 inmates had been attacked and 46 had died, had found this coccus between the ceilings and beneath the floors in great quantities, imbedded in very moist *débris* that had been used to fill up the spaces. He had inoculated thirty-two mice with a cultivation made from some of these germs and injected into the lung tissue, and all had died, pronounced hepatization being found in each case. Cases of wandering pneumonia and of central pneumonia (beginning in numerous small pneumonic areas) were best explained on the theory of infection.

The adherents of the taking-cold theory had two distinct ideas; the local action of cold penetrating the lung through the ribs was believed by some to cause the inflammatory process; others believed a cooling of the whole surface of the body caused pneumonia in a reflex way by producing a sudden hyperæmia of the internal organs. Harm did not occur after the use of Esmarch's bandage, however, in amputation of the thigh, although sudden hyperæmia must be produced; nor did it follow the use of the cold bath. The cases of pneumonia lasting one and two days were perfectly explainable on the theory of infection; so were the epidemic and endemic cases. The latter also furnished evidence that the germs causing the disease were most apt to take effect in cold, moist weather. The fact that in these epidemics neighboring villages or dwellings escaped showed that the weather condition was not alone the cause. Investigations by Emmerich, Mendelsohn, Darlington, and many others had shown that Friedländer's pneumococcus throve best in warm, moist, and dirty rooms and houses. Daily scrubbing, as was customary in many prisons, favored this condition, since much of the material not removed from cracks and beneath the flooring was kept moist. The speaker believed that cold, moist weather so generally occurring when pneumonia was prevalent acted in a causative way only by keeping the very young and aged persons indoors entirely, and by preventing the ventilation of sleeping apartments. Confinement in close rooms of itself favored the development of bronchial catarrh, and this in turn made the lodgment of pneumonic germs much easier. The coughing also tended to force the pneumococci into the alveoli. As we might expect from this now well-established fact, pneumonia often complicated diseases in which the pulmonary mucous membrane was in a state of congestion, as in typhoid fever measles, and whooping-cough. On the other hand, pneumonia seldom complicated diseases such as scarlatina, diphtheria, and meningitis, in which the pulmonary mucous membrane was not so affected. The depression of the bodily forces was quite as great in the latter diseases.

The speaker closed by reiterating his belief that cold, moist, and windy weather was efficient as a cause of pneumonia, in a majority of cases, by its causing those who lived in moist and dirty houses to close the windows and doors, and so at once encourage the development of catarrhal inflammations in their bronchi and the multiplication of Friedländer's pneumococcus in the air they were to breathe, unmixed with outside air, for hours to come. His reason for the greater prevalence of pneumonia in April and May as compared with October and November, when the temperature was similar, was that people feared the moist air of spring, closed their windows, and breathed air contaminated (in the case of filthy dwellings) by the accumulated dirt and moisture of the winter.

Dr. Francis Delafield remarked that no department of our knowledge was so uncertain as that of the causation of disease. If any advance was being made in this direction, it was that we were no longer as once willing to accept any statement that might be made regarding the ætiology of a disease. We looked for well-connected data preceding any conclusion offered, and until such appeared were willing to admit our ignorance. This was especially true of pneumonia. It was true that for many years no efforts had been made to discover its cause or causes which could very well meet with success; what work had been done was not good work. Still, even yet we had arrived at no certainty, simply from our continuing to lack sufficient knowledge. It was idle to say that we knew the cause. What we did know was that pneumonia seemed to belong to a class of inflammations due to infection, whose progress was accompanied by the growth of pathogenic bacteria. We seemed to know that to cause this growth three factors were essential—the pathogenic bacteria themselves, some exciting cause of inflammation, and a proper soil in the body of the person attacked. It was curious to observe how at different times and in different places one or the other of these three factors would take a more prominent share in producing the single result of pneumonic inflammation. Sometimes the bacteria were evidently the leading cause, as when people were much in the house and the house was a dirty one. In other cases the bacteria were abundantly present in the air breathed, yet no disease resulted unless some other exciting cause of inflammation came into play. Or, again, crowded quarters and foul air were without effect except where a susceptibility was somehow developed or present in the individual. Then, still further, we must admit that our real knowledge concerning the bacteriology of pneumonia was now just in its infancy. As far as we were now advanced, it was probable that several bacteria were capable of causing the disease, and we were unable to classify all that were at times associated with fibrinous pneumonia. Until this was worked out (a matter of much time and labor), we had not gone far toward ultimate knowledge in the subject.

Everybody must have noticed the remarkable differences in the constitutional symptoms met with, some patients throughout seeming to have only a local inflammation, others very early appearing as if suffering from general infection in addition to the disease in the lung. This variation was one of the most characteristic features of the disease. We saw the same thing in peritonitis. In the present state of our knowledge such papers as the one Dr. Seibert had just read, bringing together as it did large collections of facts, were very valuable. At the same time it was wise to remember how ignorant we were of the facts which could give us any intelligent idea as to the cause of the disease.

Dr. L. Emmett Holt said that he had very little to add. For any one to enter this field of investigation it was eminently necessary that he should come prepared with a large array of facts and a large number of well-recorded and systematically arranged cases. One feature of the disease he wished to allude to as a very noticeable one. This was the very great difference met with in individuals with respect to a predisposition to contract the disease after exposure to its exciting causes. Everything in the manner of living or the inherited tendencies which affected the general state of the constitution seemed also to affect the liability of that person to contract pneumonia. We saw similar differences, but no more marked ones, in children, in respect to the ease with which they could be inoculated by the vaccine virus or by the contagious element of measles and scarlatina. He believed one reason why pneumonia was more common in spring was because the constitutions of the less vigorous were then exhausted to some extent by the recent long continuance of cold weather and the changed conditions of living thereby made necessary. We most often saw malarial disease, and even so simple and functional a disease as chorea, appearing in the spring. It only showed that the causes which predisposed had been more active during the winter.

His experience also pointed strongly toward the fact that a predisposition to the disease was often the result of the character and cleanliness of the house and neighborhood where the patient resided. The prevalence of the disease in tenement houses did seem to indicate that pneumonia was largely due to conditions existing indoors, especially where these included dampness and bad ventilation.

Abortive types of pneumonia were not infrequent, and this fact was quite in harmony with the theory of the infectious nature of the disease. Such cases of typhoid fever had often been described, and in a recent epidemic of scarlatina in the New York Infant Asylum in which over one hundred cases occurred, instances had been seen in which the rash lasted only half a day; and several in which no temperature above 100° F. was observed. The speaker thought it very probable that many of those obscure forms of illness in which there were high temperature only for a day or two, some cough, and the physical signs of hyperæmia of the lung, were in reality abortive cases of pneumonia.

Dr. A. F. Currier remarked that, without wishing to derogate from the value of the paper, he must confess he had felt relieved when Dr. Delafield insisted that other points must come under our consideration besides bacteria. As students of truth as a whole we should always remember that, while new knowledge was always important, the old landmarks must not be forgotten. The conclusions reached by good observers in times past could not be entirely incorrect. According to Dr. Seibert's conclusion, coachmen, letter-carriers, and truck-drivers might be supposed prepared against the disease, considering their outdoor occupation, whereas, as a fact, they were very liable to it and often died of it. Here evidently cold and moisture and the susceptibility of the individual were the primary and efficient elements in the causation, as was so long recognized in days before the septic element was taken account of. As Dr. Delafield had said, the questions respecting the ætiology of this disease were not settled even by those who were making careful and wide observations and subjecting them to close analysis. Others must wait until definite conclusions could be reached.

Dr. John Messenger would emphasize Dr. Delafield's remarks as to the part played by bacteria in the ætiology. The predisposition seemed to him to have much to do in this direction. Thus the coachmen and draymen spoken of by Dr. Seibert commonly had systems debilitated by their habits and their general mode of life. They indulged in beer or whisky, slept in close apartments, bathed little, and paid little attention to the disposal of the excreta of their bodies. The form of pneumonia known as croupous or fibrinous he had treated with best success by the same means which he employed in acute rheumatism. He had seen cases of this sort in which uric acid was present in the urine in large amount. But, last of all, it remained to be said that we did not know very much about it.

Dr. Seibert said that he had not meant to say that everything had been done which could be done in giving us correct and final knowledge in the subject of the ætiology of pneumonia. We had not learned all there was to know about antiseptic methods in surgery, but in both these directions we had gone far enough to recognize the important part played by dirt in causing inflammatory processes in wounds and in the lungs. This was the practical and important part of his paper. It was a plea for asepsis in preventive medicine, as applied to pneumonia. Having made this first, he would then ask in what bodily soil the bacteria would grow if they had entrance. Physicians, reversing this order, spoke too much of predispositions instead of saying to the tenants of some filthy abode "Clean this room," or else making them leave it at once and finally. The fact that pneumonia even occasionally occurred as an epidemic was enough to prove its infectious nature. It would not alter that fact whether the germ proved to be Friedländer's, Fraenkel's, or Sternberg's pneumococcus. If a child of his own took pneumonia he would first of all see that no one slept again in the room it had been sleeping in, and would not have it used again as a living room until the floors and walls had been renovated and a clean carpet put down. Acute rheumatism he had long considered an infectious disease, and had observed it most in dirty, damp, and warm tenement houses. Infants in a tenement family he had seen die of it, and the father some months later. Its being best treated with salicylate of sodium was quite in line with the idea of there being a bacterium in the case.

He would have it recognized that the germs of pneumonia were in houses and not outdoors: he would have children taught to go outdoors in all weathers; he would have weak and anæmic children sent, not to school or into a store, but into any outdoor trade. He had for years past treated pneumonia with cold air; he never allowed a fire in the room while the patient slept; if the outdoor air was cold, so much the better; when the crisis of the disease came, he closed the windows partially; and during convalescence had the patient in a sunny room with pure air at a moderate temperature.

## NEW YORK ACADEMY OF MEDICINE.

*Meeting of April 4, 1889.*

The President, Dr. Alfred L. Loomis, in the Chair.

**Acute Mania and Melancholia or Hypochondriasis as a Sequel to Gynæcological Operations.**—Dr. T. Gaillard Thomas read a paper with this title. He wished to submit for general consideration an unusual but possible sequel to operations, not necessarily limited to those on women alone, although his experience was limited to gynæcological operations. He understood mania to mean a sudden violent aberration following a slight melancholic period, attended by excitement and violent motions, and without a tendency to inflict violence on attendants, and with a sharp, high pitched-voice. By acute melancholia he understood a sad and quiet state, the patient weeping or moaning, and the mental depression associated with hallucination of persecution. Of his six illustrative cases, four were cases of acute mania, with two deaths, and two were of acute melancholia, in both of which the patients had died.

1. A woman was operated on for removal of a large ovarian tumor of rapid growth, accompanied by much exudation of fluid. At the time she was much wasted and very low-spirited. She rallied well from the operation, the pulse being 100 and the temperature normal, but extreme nervous depression was noticed, which continued, the patient insisting that she was certain to die, until the seventh day after the operation. During the night she became very excitable, the eyes wild and haggard, the face maniacal, the speech incoherent and violent, and the pulse very rapid (160). She gradually passed into coma and died in exhaustion, the whole acute stage having lasted only thirty-six hours. The prodromes had been present from the first day.

2. This patient, a handsome and well-made woman, of good weight and in robust health, had for a long time suffered for five days preceding each period with intolerable pain in the ovaries. After a consultation with two practitioners the author performed ovariotomy. The recovery was rapid, but, after three weeks had passed, low melancholia developed, which soon passed into acute mania, in which she struck at her attendants and proved so unmanageable that she was sent to an asylum, where she remained for five months, but had then entirely recovered, and was now free from any trace of mental aberration.

3. This patient, having been operated on by perinæorrhaphy, had shown no abnormal symptoms until the ninth day, when the sutures were taken out. She then became violently maniacal, tried to leave her bed, abused her attendants, but without indecent language, and finally had to be put into a strait-jacket. After raving for four days she passed into coma and died.

4. In this case, on about the fourth day after an operation for a lacerated cervix complicated by retroflexion, it was noticed that the manner of the patient was peculiar, but on the ninth day she desired to speak with the author privately about a terrible crime which she represented that she had committed, and in so matter of fact a way that he had quite believed that she had such a confidence to make to him. About a month after the operation acute melancholia developed, in which the patient sat for hours silent and remorseful, with occasional wringing of the hands and weeping. Insomnia and also the sense of having committed some crime were persistent, and after ten days she died in exhaustion.

5. On this patient, a flighty and eccentric woman, he had performed amputation of the breast. Her peculiarities of mind had become more noticeable after the operation, but on the ninth day, when the sutures were removed, she began to weep inconsolably, refusing nourishment, and slowly passing into a coma in which she died.

6. This patient had acted queerly before the operation, and had continued to do so after it; on the seventh day following removal of the breast she became noisy and irritable (the same day the sutures were removed), but on the ninth day had become maniacal, with intervals of lucidity and quiet. After the fourth week violent mania developed, and in this condition the patient still remained.

There was very little literature bearing on the subject, and that was recent. In all, twenty-six cases had been reported. In 1887 Dr. E. J. Ill, of Newark, had published an account of ten cases in which acute psychoses had followed gynæcological operations, three of them in his own practice, and one of these after a minor operation on the bladder. One patient had had acute mania and two had presented acute melancholia, and all had recovered. The remaining seven cases had been taken from a paper by Graube from the records of various foreign operators. In 1888 Werth had reported psychical disturbances following six out of three hundred operations, with six recoveries, two unimproved, and one instance in which the patient committed suicide. In none of these cases had iodoform been used. In 1889 a Hamburg surgeon had reported three more cases.

In the speaker's own six cases four of the patients, and especially two, had shown eccentricity of disposition before the operation; four died, one had recovered, one was still insane. In none of them had there been evidence of kidney disease or of hereditary insanity. In only two of them had iodoform been used, and then very sparingly and with special precautions. In none had a sudden septicæmia been present, if his own large and melancholy experience with this complication after operations entitled him to make a positive statement. He had five questions to propose: 1. Were these disturbances which he had recorded really due to the operation, or had they happened to follow it? 2. We knew that any strain on the nervous system might be followed by mania; but might there not have been a special causation in these cases from the nature of the operations performed? 3. If the mania or melancholia had indeed been a sequence, how were we in the future to avoid such a result? 4. Were the operations of gynæcology more apt to be followed by mental disorders than operations on other parts of the body? 5. Was it not remarkable that more such cases had not occurred since gynæcological operations had become so numerous.

Dr. J. B. Hunter thought that gynæcological operations were no more apt to be followed by mental disturbances than other operations. He had recently heard a large number of similar cases related by surgeons in a meeting in which the subject had come up for discussion. He thought we could divide the cases of mental disorder which occurred in the way Dr. Thomas had described into four classes: 1. In a few it was due entirely to the operation. 2. In others there was a predisposition to mental aberration, and the shock of the operation acted as the torch which lit up the trouble merely. 3. In a few the development happened to take place after the operation, but came only incidentally. 4. In others the iodoform, carbolic acid, or bichloride of mercury used during the operation might be the cause, and very small amounts were sometimes sufficient to act in this way. In patients already predisposed, the ether alone might be followed by insanity as an immediate effect, as surgeons had long since begun to observe. When the three last classes had been eliminated, not many would be left for the first; he did not believe, either, that the psychical condition a patient might be in was ever a ground for refusing to perform operations otherwise called for. Severe nervous diseases, including epilepsy, were sometimes cured by the removal of the ovaries. We must also remember that the menopause (and especially when produced by ovariotomy) often caused mental disturbances. He thought there was some connection between the amount of surface exposed in the operation (either to the action of the antiseptic drug that might be used or to septic influences) and the liability to such psychoses as were under discussion. Thus operations on the breast and the peritonæum had a greater liability of this sort.

Dr. C. H. Nichols had had an examination made of the records of the Bloomingdale Asylum for the last eleven years and a half, which had shown that within that time only two patients had been under treatment where insanity had followed a gynæcological operation. The first of these two patients had suffered from childhood from insomnia, had insanity in her family, and seemed a person whose mental balance might easily be upset. The second had, after an ovariotomy, suffered from a grave type of suicidal melancholia. It seemed to him that a total of twenty-six cases, if these were indeed all that had occurred, bore a very small proportion to the whole number of gynæcological operations which had been done of late. He had not supposed that any of these operations, or most of them, had any liability to be followed by insanity, except for the reason that they were usually long contemplated and much dreaded by the patients. This, together with the exposure of a large surface and the shock of the operation, might be supposed to render the patient quite liable to subsequent mental disturbances, and he was surprised that such cases were not more frequent.

Dr. P. F. **Mundé**, in past years before iodoform was introduced, had had a case of what he had then supposed to be septic mania, following an ovariotomy for persistent ovarian neuralgia. The patient had recovered after a week. Two such cases, as it happened, had occurred in his practice during the past winter, and he had recently received a letter from Dr. Franklin Townsend inquiring as to the possibility of the form of mania under consideration. In one of the speaker's cases, after the removal of an ovarian tumor under chloroform and with the use of a minimum of iodoform, the patient had lost the power of speech for three weeks, during which time there had been neither fever nor depression. She pointed to her lips and indicated that she wished to write what she had to say. In another case violent mania had lasted for a week after a prolonged combined operation, accompanied by a red tongue and a temperature of 102°, but without sepsis or any interruption in the healing of the wound.

He had once been inclined to think that the removal of the ovaries would be more apt to be followed by mental disturbances than other operations, considering the not infrequent occurrence of melancholic or maniacal symptoms at the time of the menopause; but he had since come to think there was no such special liability after gynæcological operations as compared with others. He believed the premeditations of the patient had much to do with the causation, and also the prolonged anæsthesia of many of these operations. As for iodoform, plenty of patients operated on were packed with iodoform dressings in the freest manner, and showed no such symptoms as those under discussion. His conclusion was that though the cases did occur they could not be foretold, and could not be avoided except in so far as general surgical principles being followed would make the strain on the patient as little as possible.

Dr. W. M. **Polk** spoke at some variance with the opinions of those who had preceded him. He thought women were naturally disposed to mental aberrations after operations on the genital tract; they were more emotional than men to begin with, and mental disorders in them were closely connected with the genital organs. He preferred not to operate where a woman presented any abnormal mental action. He had had three cases where after the operation mania was developed, followed by death, and not due to drugs used in the operation. To appreciate the important connection of the mind and generative organs in women we only had to consider the case of those numerous women who in the intervals of menstruation were capable of attending to any business or social duties, but during the few days of menstruation were unable to manage their own houses or cooks. He thought the contemplation of an operation was hardly a sufficient cause for subsequent mania. In one of his three cases he had performed an autopsy after death and found everything normal. In a second the sister of the patient had mental peculiarities, and in the third the patient had been decidedly queer before the operation. He was therefore opposed to any severe operation being done on a woman in whose family history there were any indications of inherited mental derangement.

Dr. W. G. **Wylie** said his experience would not permit him to say positively that gynæcological operations caused insane after-developments more than other operations. We should remember that these operations were in many instances done on women not perfectly developed in their generative organs, and this of itself would have an influence in the production of mental troubles. Moreover, the imperfectly developed uterus might well go with an imperfectly developed brain. In this case the operation could scarcely be said to have caused the mental disorders following it, in any specific way. Among his many operations there had been a number on patients already insane, and the results had been good.

He recalled an instance where a lady living in the West became insane after the birth of a child, and after passing six months in an asylum had been sent to New York to try the effects of a change of residence. Here a number of experts had pronounced her insane, with suicidal tendencies. Subsequently he had been called in and had found her suffering from a very large erosion of the cervix. After treatment of this condition she became sane again, except during menstruation, and returned home. After the birth of her next child she returned to the city presenting the same symptoms as before, and an examination showed that she had an enlarged uterus and diseased tubes and ovaries. Immediately on her arrival she was violently insane, and was sent to Bellevue Hospital, he having been called thither by Dr. Dana. Ovariotomy and other local treatment had been followed a second time by considerable improvement.

In the only case in his experience in which insanity had followed an operation on the genital organs the patient had had a severe form of epilepsy for years before. When the case was sent to him he had said that he would operate if he found any evidences of local disease warranting it, and having found salpingitis and an ovarian tumor, he removed these structures. The patient died on the seventh day in raving mania. He had thought till lately that the removal of the tubes and ovaries was always followed by depression and despondency, but had found that this was not certain to follow. It was well worth remembering that in almost all forms of uterine trouble the rectum was in a very bad state, or else the colon, or both, and the cure of hæmorrhoids and fissures would be found to have as excellent an influence on the mental state as the treatment of uterine diseases. He had recently had a patient under his care suffering from severe nervous disturbances who had been for a long time receiving treatment for diseases of the uterus and bladder without relief, and also for salpingitis. He had found an enormous anal fissure. All the nervous symptoms had disappeared after the second dilatation of the sphincter.

Dr. **Franklin Townsend, Jr.**, of Albany, related an instance in which, after a patient had rallied well from an operation for the removal of the tubes and ovaries, the bowels being regular, the appetite good, the pulse fair though rapid (as before the operation), nervous depression had grown into hysteria, and then into melancholia, with refusal to eat or speak. He would say here that he thought a rapid pulse previous to an operation a bad omen. The patient had then become maniacal, so that a strait-jacket had been used to keep her in bed. The heart had gradually become weaker and she had died in exhaustion. When she was operated on she was very hydræmic, and he believed the poor nourishment of the brain so caused had favored melancholia, and also a weakness in the arterial walls which subsequently allowed them to dilate with the production of acute mania.

Dr. L. C. **Gray** said that to Dr. Thomas was due the credit of having called attention to a distinct genus of insanity. Dr. Thomas had given the histories of six cases of his own, to which he had added twenty-six other cases culled from the journals. These latter might be left out of consideration, as the histories were not definite enough to allow one to base upon them any conclusions, so that we must confine our knowledge of the subject to the six cases reported by the reader of the paper. Four of these six patients had died, one within thirty-six hours. Three of these six cases had been of the type of mania, while the three others had been of the type of melancholia. But mania and melancholia were but symptoms, and these six cases did not possess the characteristics of the ordinary types of mania and melancholia. Two forms of so-called acute mania were known—one which was the true acute mania, and which was characterized by active but not destructive violence; and another known as delirium grave, which was really a cerebritis, and which was characterized by violent, dangerous, and insensate delirium, and by marked intermissions. Dr. Thomas's sixth case was unquestionably a case of delirium grave. The types of melancholia which were known were the simple melancholia, the agitated melancholia, and the melancholia with stupor, all of which were more or less chronic diseases and generally of fair prognosis. None of Dr. Thomas's three cases of melancholia would correspond to either of these three types. So that, after all, we had three non-typical cases of mania and three non-typical cases of melancholia following gynæcological operation. The post-febrile insanities were a well-studied group, and it was very evident that Dr. Thomas's cases were a genus of the post-febrile species of insanity, differing from the latter in the fatality, in the violence, and in the absence of one of the most marked features of post-febrile insanity, namely, logical delusions. He thought, therefore, that a far better name for the disease than that which the writer of the paper had suggested would be post-operative insanity. It was a noteworthy fact that all of these six cases had developed at a certain time after the operation. The query, therefore, would be naturally as to whether there was not something that germinated in the wound at a certain period after the operation in these cases—a micro-organism perhaps. Certainly the fact that in some cases mania developed, in others that melancholia developed, that there was in all great violence, and that in four out of six death followed—all these facts certainly seemed to show that there was a great deal more than a reflex act as cause, and that some morbific germ or poisonous substance must develop in the site of the wound within a certain period of time after certain operations. Whatever the cause might be, the profession would do very well to answer Dr. Thomas's questions concerning the ætiology in ten years. As to whether there were certain persons upon whom gynæcological operations should not be done, that would be a very difficult question to answer, although it might be well if the widespread passion for oophorectomy could be prevailed upon to spare, for a time at least, the tender nervous systems of those who were congenitally or hereditarily predisposed to insanity.

The President instanced a case in which a week after the removal of a kidney by Dr. Lange the most acute mania had developed, followed in time by full recovery.

Dr. Thomas replied to Dr. Hunter in regard to iodoform, that if there were such grave disadvantages connected with its employment its use at all was not warranted. He closed his incisions with silver sutures followed by catgut, so that the skin was brought into complete union, and then covered the line of union with collodion, which he sprinkled, when not quite dry, with iodoform. He would not say positively that even then the drug could have no influence. He had not mentioned a number of cases in his experience in which the mental disturbance had been of short duration. As to what had been said relative to the free use of iodoform in some cases without results, we must remember how much patients varied in other matters, in the possible effects of an ordinary dose of quinine, for instance. He did not believe that ether had ever produced insanity, although he did not like it as an anæsthetic.

It seemed to him very significant that the record had been increased by the addition of twelve cases since the discussion had begun, and it reminded him of an incident which had occurred just after pelvic hæmatocele had become a recognized disease. A surgeon in a European hospital in conversation with another had expressed doubt as to the possibility of the existence of such a disease. An examination thereupon of patients then in his wards had revealed two cases there at the time.

As to the evil results of the expectation of an operation, he was in sympathy with what had been said. When we considered how many of these patients went successively to six or eight surgeons, it was remarkable that more *crises* did not follow the operation. However, the practical deduction he wished to draw here was this: If a tumor appeared in a woman's breast no larger than a cherry stone it had best be taken out at once, for while it remained she would think, talk, and dream of nothing else. We might also be thus removing the nucleus of a malignant cancer. In conclusion, he would say that his own mind was not fully made up as to the broad questions raised by his paper, and he thought they could not be fully decided now, but that if the cases that occurred in the future were reported and classified, much more might be learned.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN OBSTETRICS AND GYNÆCOLOGY.

*Meeting of February 28, 1889.*

Dr. H. T. Hanks in the Chair.

**An Anencephalic Fœtus.**—Dr. J. M. Mabbot presented a specimen of this sort. (See page 491.)

The Chairman remarked that he had once extracted a child somewhat similar in shape and appearance to the one just shown, except that more of the brain had been developed, and had formed a tumor as large as an egg outside of what there was of the head. As often as he had touched this tumor, when he made his examinations before the descent of the head through the vagina, the child had made sudden movements, which had evidently been caused reflexively. As in the present case, it had been born dead.

**The Ætiology of Dermoid Cysts.**—Dr. J. R. Goffe presented a large dermoid cyst in which a number of teeth and a large wad of matted hair were loosely imbedded. The woman from whom he had removed it had borne seven children, the last four years previously. The tumor had first been noticed a year previously, and since that time there had been much pain, and repeated attacks of peritonitis. When the abdomen was opened, the tumor was found in the site of the right ovary, but the ovary on the other side also was found to be in a state of disease of the same sort, with a similar production of hair and sebaceous and glandular matter. Over the larger tumor the intestines were adherent to such an extent that the Paquelin cautery was used to stop the hæmorrhage which followed the division of the bands of new tissue. Besides the hair and teeth, the tumor was composed in the main of sebaceous matter and dermoid tissue. The hair was wrapped up so as to form a hard ball, and was saturated with the sebaceous material.

Dr. P. F. Mundé remarked that large balls of hair were of frequent occurrence in these tumors. In one such tumor which he had removed he had found numerous small bodies containing sebaceous matter, of the size of marbles and as round as if cast in a mold, floating in the fluid contents of the tumor. To each one a single hair had been found growing. In another instance he had removed a dermoid cyst on either side, both ovaries being involved, and had found that in one the hair was blonde and in the other black.

Dr. W. G. Wylie, in reply to a question from Dr. Goffe as to how the appearance of dermoid cysts late in life was to be reconciled with their being always of congenital origin, said that they might remain latent for an indefinite time, and might first take on active growth at the time of the atrophic changes of the menopause. It was noticeable that tumors growing at or after the menopause grew slowly, and with much accompanying pain; adhesions were apt to form, and there was a tendency to suppuration. This slow growth might be the reason for the frequent formation of oily matters in dermoid cysts. He had that same day removed a dermoid cyst from an elderly woman which contained a quantity of chocolate-colored fluid and about half a pint of what was to all appearance olive-oil. The woman had borne twelve children.

Dr. Mundé remarked that there were three events in a woman's life which might be influential in starting up the growth of a latent tumor such as a dermoid cyst, and they were puberty, child-birth, and the menopause. He was inclined to believe with Waldeyer that this was true for all new growths, that the germs of all were derived from fœtal life, and that peculiar circumstances of different sorts called them into a more active state.

**The Surgical Treatment of Retroversion of the Uterus with Adhesions.**—Dr. Wylie read a paper thus entitled in which he described a new method of shortening the round ligaments, and showed its applicability to a class of cases which had until lately been very troublesome to deal with—where the uterus was held retroflexed by adhesions, but where the tubes and ovaries were not diseased. He believed, as he had maintained for many years, that displacements of the uterus were not of themselves necessarily the cause of disorder or pain. However, a diseased uterus was often put into a worse condition by displacements, especially flexion. Adhesions of themselves were not a disease, but an effort toward repair or shutting off diseased parts from the general cavity. They only became harmful when attached to diseased organs in a way which interfered with their circulation, or when they hampered other organs, such as the bowels, in their functional activities. Adhesions could be softened and stretched enough to release the intestines and relieve the endometritis commonly present in this class of cases; but since in nine tenths of all cases of retroversion with adhesions there was also pyosalpinx, laparotomy was usually called for before the patient could be cured. Any one who had opened the abdomen often enough to be familiar with the conditions constantly met with when adhesions had formed in any amount, would appreciate how much greater the probabilities of rational treatment were after the abdomen had been laid open. It was now not a more dangerous procedure than stretching out adhesions, when we took into account the liability to causing a fresh inflammation in tubes and ovaries already diseased which was present in the great majority of these cases. Forcibly breaking up adhesions without opening the abdomen was never to be resorted to. He would keep the patient quiet as long as the symptoms were acute and there was any rise of temperature. But otherwise, whenever a retroflexed uterus was found to be enlarged and sensitive, he would put the patient in the prone posture and push up the uterus slightly with the finger. If the adhesions were attached to the fundus, the fixation of the uterus would be much greater than if the adhesions were in the broad ligaments. Adhesions in the latter situation caused most of the displacements of the uterus. In mild cases he would begin treatment by packing in pledgets of boro-glyceride cotton to restore the uterus to its position by securing drainage, dilating the cervix, and curetting the endometrium, according as the case seemed to demand; but if these failed, he would then make an incision and find out what he had to deal with. If with the patient under the influence of ether he found the uterus freely movable and the tubes healthy, he considered Alexander's operation not unlikely to do good, but such cases were not the majority of those that were met with. By stretching adhesions the position of the uterus could not really be restored, since the adhesions were in no case broken up, and would in time return to their former state of tension. When ordinary treatment failed to relieve, and where the symptoms were such as to demand measures for relief, he proceeded at once to perform laparotomy, look over the contents of the pelvic cavity, break up all adhesions, bring the uterus forward and shorten the round ligaments so as to retain it upright, and remove diseased tubes and ovaries, if necessary, as was so often the case. At one time he had shortened the round ligaments by cutting out a portion of their length and reuniting their ends inside the abdomen; but a far better device, which he now used exclusively, was to scrape a suitable length of the ligament raw and then fold it on itself at this point and tie it together. Healing took place rapidly and firmly after this procedure, and the ligament was of course permanently shortened. A large Albert Smith pessary was then used to keep the uterus in its new position while healing went on.

Dr. B. F. Baer, of Philadelphia, present by invitation, was not prepared to agree with Dr. Wylie as to the pathology of displacements, and still held to the belief that displacements of the uterus had some share in bringing about its diseases; still his belief was not so strong as it had been, and he might in the future abandon it entirely. And still no one would suppose an organ in its normal position which was upside down. All would agree that our present approved therapeutical measures were such as tended to restore the displaced uterus to its position, and even Dr. Wylie employed these. He believed with him most emphatically that it was a matter of the greatest importance to restore to mobility and upright position a uterus fixed by adhesions in retroflexion. Still he thought that in a large number of cases this could be done through the vagina by ordinary methods, including the use of the pessary. The interference with circulation and the pressure on nerve-ends must be a part of the condition needing relief in uterine displacements, being directly due to that displacement. He entirely concurred with the reader as to the advantages of the new operation, and believed it a scientific and effective method. He could go further than Dr. Wylie in his estimate of its value, since he regarded retroflexion and displacement as causes of disease. He believed laparotomy justified in many cases for the sole purpose of shortening the ligaments. He had found the round ligaments very hard to find externally sometimes. He had lately operated in a case of retroflexion in which there were no adhesions, but in which all ordinary treatment (including the use of a pessary) had not availed to relieve the malposition. The tubes and ovaries were healthy. After opening the abdomen he had brought the uterus forward, but not without difficulty. In one tenth of the cases the shortening of the round ligaments after a laparotomy would of itself be found useful. In nine tenths there were likely to be diseased tubes and ovaries, besides adhesions. In either case laparotomy was justifiable. The danger of hernia was less than after Alexander's operation, and, as none of the patients operated on had as yet died, it seemed to be quite as safe an operation.

Dr. Mundé had not tried Dr. Wylie's method. All who had treated retroflexion with adhesions had felt that laparotomy might in some cases be required to effect a cure. However, systematic and prolonged tamponing had undoubtedly cured some patients. He had thought that the amount of adhesion produced by Dr. Wylie's method would hardly be sufficient to stand the dragging on the ligament, but he might be mistaken on that point. He had performed Alexander's operation twenty-six times, and believed that it fulfilled its object in suitable cases. The objection to it was not that the round ligaments could not in most instances be found, but that they could not always be drawn out, or were too thin to be of service. It was not to be compared to hysterorrhaphy, since absolute mobility of the uterus was an indispensable condition for its performance. Recently he had had a case of complete prolapse of the uterus, and had decided to attempt a cure by shortening the round ligaments. He had accordingly found and exposed the ligament on one side, and had then made careful traction on it, remembering that it might be weak. The rupture of a large vein and a troublesome hæmorrhage had first occurred. When he continued to pull on the ligament, it broke off short. He therefore did not attempt the procedure on the other side, but at once performed laparotomy and stitched the fundus of the uterus to the anterior abdominal wall. So far the result had been excellent. The cases in which hysterorrhaphy was indicated were those in which the adhesions were capable of being stretched, and the uterus could be lifted up into position by the finger pushing upon it through the posterior vaginal wall, or by an ordinary repositor, but returned to retroflexion as soon as these were withdrawn. Where the adhesions were very dense it might be impossible to liberate the uterus, ovaries, and tubes without a risk of tearing and injuring the latter. This had happened to him in one case, and he had been obliged to give up the attempt. The patient fortunately had recovered. A possible danger from hysterorrhaphy seemed to him to be the slipping and incarceration of intestines between the uterus and bladder. In the two successful operations which he had performed he had found the constant protrusion of the intestines during the operation to be a source of great annoyance, especially by their interfering with the introduction of the sutures through the broad ligaments and fundus. He thought it might be well to stitch the uterus up first and tie the sutures before inserting the other sutures in the abdominal wall. Many cases of backward displacement could be cured by tampons and pessaries. Hence the operation of hysterorrhaphy had a limited field of usefulness and applicability, and certainly was not devoid of danger. With regard to the significance of forward displacements, he believed that, although they were not of themselves the cause of uterine symptoms, they might yet in course of time produce symptoms indirectly by favoring engorgement. Then, too, the peritoneal surfaces brought into contact might become adherent. He therefore thought that even such displacements should be treated and cured if possible.

Dr. G. T. Harrison thought that retroflexion complicated by perimetric adhesions was emphatically a pathological state, and either by the specialist or the general practitioner must always be considered as one requiring relief. He must dissent from Dr. Wylie's opinion that backward displacement was in itself a matter of small concern. On the contrary, he thought that treatment was needed in every case in which it occurred before the woman could be well. He believed that a really normal position could not be obtained in these cases by shortening the round ligaments. The uterus naturally was freely movable, but the shortening of the round ligaments tended to produce anteflexion in place of retroflexion; it did not therefore restore normal position. One great objection to ventral fixation was its holding the uterus forward so as to interfere with the normal excursions of that organ. It made an exchange of one evil for another. However, Dr. Mundé had admitted that the operation was a recent one, and was still on trial. The speaker had no doubt that many of the women operated on in this way would afterward have trouble with the bladder, and also during the progress of pregnancy and in delivery. It was certainly important that during the puerperal period the parturient woman should not suffer from overdistension of the bladder. It was a matter for congratulation that we had a means of dealing with almost all cases of retroflexion complicated with perimetric adhesions—namely, massage applied by a modification of Brandt's method. The speaker had employed massage with excellent results without having read or being minutely acquainted with Brandt's directions. He could testify that pessaries did often cure retroflexion, although a whole year or five years might be required to get this result. He believed that it was the relaxation of the utero-sacral ligaments which was the active and important element in the situation when the uterus was displaced backward, and, as Alexander's operation did not take this into account, he thought it lacking in real applicability to these cases.

Dr. A. F. Currier had seen Dr. Wylie do his operation and was familiar with his ideas in regard to it. As Dr. Mundé had said, no surgeons except Dr. Wylie and Dr. Baer had done the operation, and discussion of it by others could not be carried very far. The main question before the meeting related to the treatment of backward displacement of the uterus by any and all methods. The advantages of Dr. Wylie's operation, or its disadvantages, could not be directly discussed so soon as this after its introduction. We were bound to consider what results really followed backward displacements. In some patients certainly there were no symptoms produced; in others there were very marked symptoms, the result of engorgement, which demanded treatment. In a third class of cases, though there were symptoms of a certain sort, the chief result of the displacement was a general atrophic change in the uterine tissue, and this was incurable. Cures were undoubtedly effected by Alexander's operation, by Dr. Wylie's also, and by pessaries as well, and particularly in unmarried women. Another point but briefly alluded to by Dr. Wylie was the method of forcible replacement of the uterus when it was retroflexed and held by dense inelastic adhesions and shortenings of its ligaments. Retroflexion caused the layers of the broad ligament to become folded on each other, and if then an inflammatory process was set up, these folds would very soon adhere to each other. A question then arose as to what method could be used to break up these adhesions safely, so that their shortening and the resulting traction on the uterus might be brought to an end. It could certainly not be done by the method called Schultze's operation, which he had employed, but without success. Whenever, with the hand on the abdomen, a sound in the uterus, and one finger in the rectum, he found that the layers of the broad ligament were adherent to each other, and that when the uterus had been restored to position by the sound it immediately sprang back as soon as the sound was withdrawn, he knew that forcible replacement must be a vain procedure. As to the value of pessaries in uterine displacements, he believed with Dr. Harrison that they cured some cases. He had sometimes followed a case for two years after pessaries had been successfully used to replace a uterus, during which time, as the uterus retained its new position steadily, he had simply gradually reduced the size of the pessary until he was convinced that none whatever was needed. He thought that none but experienced and skillful operators should attempt so bloody an operation as the method by laparotomy might prove to be. He agreed with Dr. Mundé that in cases of retroflexion with a perfectly movable uterus Alexander's operation was a good and useful one, but that if the uterus was adherent, either hysterorrhaphy or Dr. Wylie's new method was called for.

The CHAIRMAN remarked that it was recognized by all that some cases could not be cured by Alexander's operation, by pessaries, or by tampons. Moreover, Alexander's operation had been as fatal as laparotomy in the hands of the best operators, but not more than was to be expected. He did not think that the Alexander operation was backed by good surgical principles, and believed that, if pessaries failed to effect a cure or a long relief from symptoms, we should open the abdomen at once, and so make sure at least of what there was there needing treatment. At the same time, when pessaries gave relief for one or two years, that relief was for the time a cure. The reappearance of the disease in time did not prevent that. Pessaries did certainly often do this much. However, plenty of cases occurred where the adhesions needed to be broken up. As to hysterorrhaphy and the opinion that its result was incompatible with the uterus lying in its normal relations, and that it left a pathological condition present which would interfere with a normal pregnancy, he would say that he had delivered a woman upon whom this operation had been done of a full-grown child, and had observed no symptoms of there being anything wrong.

Dr. WYLIE professed himself ready to try other operations whenever a valuable addition to our resources should seem to have been made. He had only put forward his present method as one which would replace hysterorrhaphy to advantage in the same sort of cases. It did not cure uterine diseases, but it removed one of the complicating elements which interfered with the likelihood of a full recovery of health. Thus, we could treat chronic endometritis to better advantage after replacement of a retroverted uterus. As to treating this condition of perimetric adhesions by massage, he would say that he valued the method as preparatory to other treatment in uterine diseases, but in many cases it would prove insufficient. The treatment by pledgets soaked in boro-glyceride was to be tried, also dilatation of the cervix and drainage, also pessaries and massage. He refused to operate until this had been done faithfully; but, when all these had failed, the operative procedure became in order. When the broad ligament had folded on itself and become adherent in the way described by Dr. Currier, salpingitis was usually present, as laparotomies were constantly showing. Here, too, when general treatment had failed, laparotomy gave an opportunity to remove the diseased appendages, besides breaking up adhesions and allowing the uterus to regain mobility, which he regarded as of more importance than position. Atrophic conditions he did not expect to cure. He only brought the uterus far enough forward to bring it about that, in making exertions or in efforts at stool, pressure should come upon the top of the uterus and not upon its anterior side.

## Book Notices.

*Rectal and Anal Surgery*, with Description of the Secret Methods of the Itinerant Specialists. By EDMUND ANDREWS, M. D., LL. D., Professor of Clinical Surgery, Chicago Medical College, etc., and EDWARD WYLLYS ANDREWS, A. M., M. D., Professor of Clinical Surgery, Chicago Medical College, etc. Second Edition, revised and enlarged, with Illustrations and Formulary. Chicago: W. T. Keener, 1889. Pp. xiv–140. [Price, $1.50.]

WE are glad to see that the authors have enlarged and perfected the work of the first edition—in fact, have so rewritten it as to have made almost another book. The first was devoted almost entirely to the good work of exposing the quacks in this branch of surgery; the second is a text-book. Looked at as such, there is much in it deserving of praise. It is concise, practical, and valuable; it contains no errors; and it shows a careful study of the literature of the subject and a practical knowledge of the things of which it speaks. The greater its circulation, the better for the profession and their patients.

*The Diagnosis and Treatment of Diseases of the Rectum.* By WILLIAM ALLINGHAM, Fellow of the Royal College of Surgeons of England. Edited and revised, with much additional New Matter and Numerous Diagrams, by HERBERT W. ALLINGHAM, Fellow of the Royal College of Surgeons of England, etc. Fifth Edition. London: J. & A. Churchill, 1888. Pp. 16–366.

To every student of diseases of the rectum the fifth edition of Mr. Allingham's book comes as an old, familiar friend—practical and reliable. If it contains too little that is new, all that it does contain is good; and if it is incomplete, it is trustworthy so far as it goes. In this edition it comes to us with a new name on the title-page, that of Mr. Herbert W. Allingham, but with the same old statement in the preface to the effect that the work is practical, and contains no pathology; and this omission of everything save diagnosis and treatment is a defect in the work greatly to be regretted.

Considering the book as the authors choose to have it and not as we might wish they had written it, there is little to speak of except with praise. The younger author shows his hand in the chapters on incontinence of fæces, excision of the rectum, and inguinal colotomy—two of which at least are familiar to the reader from the pages of current medical publications. As to the first, the omission of all reference to previous work in the same line by other writers might lead the reader to believe that it was original with Mr. Allingham—an impression he could hardly have intended to convey. Rather, we suppose it to be in the general line of the dogmatic character which has always characterized this text-book, and which we see carried to its extreme limit in a chapter on excision of the rectum, in which the work of the German surgeons, which by its boldness has startled the profession and filled the medical journals for the last five years, is not even referred to. We are tempted to wonder if either Allingham ever heard of Kraske's operation.

However, the limitations of the book are so generally understood that they need not be dwelt upon. As an account of the experience and practice of the elder Allingham it has great value; as a text-book it has fallen far behind several of its competitors. The specialty to which its senior author has devoted his life seems to be running in advance of him; and the sixth edition, unless it makes more rapid strides than the last, will be but a primer for medical students.

*Hand-book of the Diagnosis and Treatment of Skin Diseases.* By ARTHUR VAN HARLINGEN, M. D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine, etc. Second Edition. Enlarged and revised. With Eight Full-page Plates and other Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. xv–17 to 410. [Price, $2.50.]

WE had the pleasure of giving the first edition of this most excellent book a favorable notice in our issue for March 21, 1885. The second edition is an improvement on the first. It contains a hundred and twenty-eight more pages, a number of full-page illustrations, and thirteen woodcuts in the body of the text. These, with a number of tables of differential diagnosis, greatly enhance the value of the work. The whole has been thoroughly revised, as well as in great part rewritten, some of the sections being two or three times as full as they were in the first edition. There are new sections on angeioma pigmentosum et atrophicum, hemiatrophia facialis, baths, colloid degeneration of the skin, dermatitis scarlatiformis, dermatitis papillaris capillitii, desquamation, skin diseases in connection with diabetes, eczema seborrhoicum, electricity, erysipelas, desquamative scarlatiniform erythema, erythrasma, goose-skin, hæmatidrosis, lymphangeioma, mycosis fungoides, diseases of the nails, naphthol ointments, and rubella, all of which are well and concisely written. One specially commendable new feature of this edition is that the proper pronunciation of the majority of the names is given. The book is one that no medical student can afford to be without, and he will find it a convenient work for ready reference when he becomes a practitioner and has not time to consult the larger treatises that he ought to have on his shelves.

*Chemical Analysis of Healthy and Diseased Urine*, Qualitative and Quantitative. By T. C. Van Nüys, Professor of Chemistry, Indiana University. With Thirty-nine Wood Engravings. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. x–17 to 187. [Price, $2.]

This manual can not be said to have been written for the busy practitioner, and for the specialist in urinary analysis we think it is hardly thorough enough. It will, no doubt, however, be found invaluable to the students attending the author's course of lectures. So many excellent manuals have recently appeared on this subject that there is little reason to commend one more than another. The one under review, however, will compare favorably with those that have preceded it.

*The Vest-pocket Anatomist* (founded upon "Gray"). By C. Henri Leonard, A. M., M. D., etc. Fourteenth Revised Edition. Containing Dissection Hints and Visceral Anatomy. Detroit: The Illustrated Medical Journal Co., 1888. Pp. 5–297. [Price, $1.]

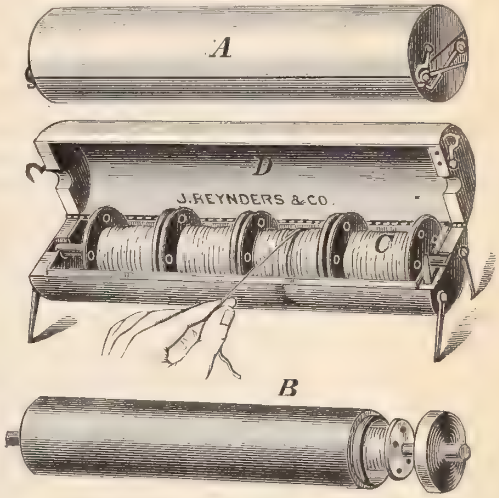
That this is the fourteenth edition of this work, and that four editions have been sold, as the author tells us, in London alone, indicates a demand for the work, but the reason for such a demand is a mystery. The student just before examination will find it useful to rapidly refresh his memory regarding the anatomy previously learned from a more complete work, but it is insufficient for almost any other purpose. On page 84 the arch of the aorta is said to be on a level with the second dorsal vertebra. So far as we know, there is no authority for placing the level so very high. Gray places it at the third dorsal vertebra, but many of the best anatomists consider this too high, and give the fourth dorsal vertebra as the usual level. The engravings are old and poor, the paper is poor, and the book as a whole is not very well got up.

## New Inventions, etc.

### A NEW FORM OF CATGUT RECEIVER AND HOLDER.

By A. M. Phelps, M. D.

Up to the present time every form of catgut holder and device for carrying catgut has been found to be very unsatisfactory to the surgeon. The glass catgut holder can not be carried about owing to the liability to breakage; the catgut which is placed in bottles or small spools is liable to become entangled, and the ends are constantly coming in contact with the outside of the bottle or the cork, thereby becoming infected and making it an impossibility for the operator to do thorough antiseptic work. In hospitals the large glass catgut holders in which the catgut is immersed meet every requirement, but when the surgeon is compelled to drive about the city and perform operations in the homes of his patients, or perhaps the country practitioner has to drive miles over the rocky roads to perform an operation in some obscure cabin, or possibly among the wood-choppers or miners of the mountains, he finds that to keep his catgut in a thorough antiseptic condition from the time he leaves his office until he opens the ordinary receiver, threads his needle from it, and passes it into the wound, requires the greatest of care; after all this care, the wound will frequently suppurate, and he can justly charge it to the infection of his catgut.



To obviate all this, I have devised a simple apparatus which consists of a catgut receiver for carrying the catgut, and a catgut holder from which the catgut can be used without danger of infecting it. It consists of a hard-rubber receiver, B, which contains spools on a spindle upon which the catgut is rolled. This catgut is prepared in the following manner: Raw catgut is immersed in oil of juniper for two weeks, then transferred to sulphuric ether for forty-eight hours; finally it is wound upon the spools and passed into the receiver, which is filled with alcohol. This receiver is then placed inside of the catgut holder, D. When closed it makes a compact box, A. It should be carried in a small antiseptic rubber bag furnished with the apparatus. When the operator is prepared for his operation he opens the holder, A, takes out his receiver, B, unscrews the cap, removes the spools and places it in the catgut holder, D, as seen in the figure. The alcohol from the receiver, B, is now turned into the holder, D, and the lid closed down to the stop, which allows it to close within about half an inch, from which space the catgut can be unreeled from the spools, which are immersed one half their diameter in the alcohol of the holder; as the spools revolve they revolve through the alcohol. The cover being nearly closed prevents dust or other accidental filth from coming in contact with the catgut. After the operation is concluded, the receiver, B, which had at the beginning of the operation been placed carefully in the small rubber bag, is now opened, the spools of catgut are returned together with the alcohol, the cap is screwed on, the receiver is returned to the holder, D, the whole thing is closed, the legs upon which the receiver has stood being folded up, as seen in A, and the whole machine is returned to the bag.

It has been urged that the holder is not an antiseptic machine, owing to the corners and crevices. In answer I will say that if the apparatus is kept in the antiseptic rubber bag, and care exercised to thoroughly wash it in bichloride solution before the operation begins, and before the catgut spools and alcohol are transmitted to it, it is thoroughly antiseptic, and more so than any other portable catgut holder or receiver that I know anything of.

The peculiar advantages of this machine are: First, it is not liable to breakage. Second, it is durable. Third, it is convenient. Fourth, the possibilities of the snarling of the catgut upon the spools is remote, and when it does occur the cover can be easily raised and the accident remedied, which can not be done in any other portable machine with so great facility. Lastly, but not least, the surgeon can be absolutely certain, if he exercises proper care and judgment in cutting off the catgut and in carrying out the few simple details which I have enumerated, of having thoroughly antiseptic catgut in the wound when he has finished the operation. (I should have remarked that the holder, D, is made of brass, nickel-plated.)

For the perfection of this machine I am indebted to Mr. William Harz, of Messrs. John Reynders & Co., 303 Fourth Avenue, New York.

# Miscellany.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending May 17th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y. | May 11. | 1,565,196 | 782 | .. | .. | .. | .. | .. | .. | 4 | 48 | 43 | 8 | 24 |
| Chicago, Ill. | May 11. | 830,000 | 328 | .. | .. | 1 | .. | .. | .. | 2 | 4 | 11 | 13 | 4 |
| Brooklyn, N. Y. | May 11. | 821,525 | 415 | .. | .. | .. | .. | 1 | .. | 2 | 10 | 18 | 10 | 5 |
| Baltimore, Md. | May 11. | 500,343 | 146 | .. | .. | .. | .. | .. | .. | 5 | 4 | 2 | 1 | .... |
| San Francisco, Cal. | May 3. | 330,000 | 107 | .. | .. | .. | .. | .. | .. | 1 | .. | 2 | .. | .... |
| Detroit, Mich. | ...... | ...... | ...... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Cincinnati, Ohio. | May 11. | 325,000 | 142 | .. | .. | .. | .. | .. | .. | 2 | 2 | 12 | 1 | .... |
| New Orleans, La. | May 4. | 254,000 | 141 | .. | .. | .. | .. | .. | .. | 1 | .. | 5 | .. | 2 |
| Washington, D. C. | May 4. | 225,000 | 67 | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | .. | 1 |
| Washington, D. C. | May 11. | 225,000 | 92 | .. | .. | .. | .. | .. | .. | .. | 1 | 2 | .. | .... |
| Milwaukee, Wis. | May 11. | 210,000 | 53 | .. | .. | .. | .. | .. | .. | 3 | 1 | 1 | 1 | .... |
| Minneapolis, Minn. | May 4. | 200,000 | 45 | .. | .. | .. | .. | .. | .. | 3 | 1 | 9 | .. | .. |
| Newark, N. J. | May 7. | 182,457 | 91 | .. | .. | .. | .. | .. | .. | 4 | 16 | 28 | .. | .... |
| Kansas City, Mo. | May 11. | 180,000 | 36 | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | 1 | .... |
| Providence, R. I. | May 11. | 127,000 | 52 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 2 |
| Rochester, N. Y. | May 11. | 120,000 | 30 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 |
| Denver, Col. | May 10. | 100,000 | 28 | .. | .. | .. | .. | .. | .. | 1 | 1 | 1 | .. | .... |
| Richmond, Va. | May 11. | 100,000 | 36 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .... |
| Toledo, Ohio. | May 10. | 83,500 | 26 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Nashville, Tenn. | May 11. | 65,153 | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Fall River, Mass. | May 11. | 65,000 | 20 | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .... |
| Charleston, S. C. | May 11. | 60,145 | 47 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Lynn, Mass. | May 11. | 50,000 | 14 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Manchester, N. H. | May 4. | 42,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me. | May 11. | 42,000 | 12 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Galveston, Texas. | May 3. | 40,000 | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Davenport, Iowa. | May 4. | 33,715 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Davenport, Iowa. | May 11. | 33,715 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Binghamton, N. Y. | May 11. | 30,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa. | May 4. | 30,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa. | May 11. | 30,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Auburn, N. Y. | May 11. | 26,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass. | May 11. | 25,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .... |
| Newport, R. I. | May 9. | 22,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newton, Mass. | May 11. | 21,553 | 5 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Keokuk, Iowa. | May 11. | 16,000 | ...... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Council Bluffs, Ia. | May 4. | 35,000 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Council Bluffs, Ia. | May 11. | 35,000 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Pensacola, Fla. | May 11. | 15,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**The Health of Connecticut.**—According to the State Board of Health's "Monthly Bulletin," the total number of deaths reported from 166 towns during the month of April was 1,073, including 12 from measles, 11 from scarlet fever, 11 from cerebro-spinal meningitis, 71 from diphtheria and croup, 8 from whooping-cough, 3 from erysipelas, 10 from typhoid fever, 5 from malarial fever, 1 from typho-malarial fever, and 7 from puerperal fever.

**A Correction.**—In the Journal for March 9th, in the report of a meeting of the New York Surgical Society, on page 277, Dr. Abbe's paper on "Colo-colostomy" being under discussion, Dr. Willy Meyer was made to say that "in his own last case of colo-colostomy the operation had lasted more than two hours." Dr. Meyer's remark really had reference to a case of gastro-enterostomy.

**Morbid Changes in Diabetes.**—"Dr. P. Ferraro, who has made several researches on the subject of the changes produced in the different organs of the body by diabetes," says the "Lancet," "has recently published the results of similar investigations in a fresh case, the eighth of the series. The arteries were affected with chronic endarteritis; in the lungs there were morbid changes not due to bacilli; in the stomach and intestines the mucous membrane was atrophied; the pancreas was transformed into a firm, compact mass of fibrous or cicatricial character; in the parenchyma of the liver and in the spleen pulp there were also signs of atrophy. Here, therefore, as in the other cases examined, the digestive organs were most of them affected to a greater or less extent, while the nervous system was not apparently the subject of any morbid changes. Dr. Ferraro considers the exhaustive study of the morbid histological changes in diabetes very important, and believes that we shall not arrive at any definite conclusion as to the ætiology of this disease until our knowledge of the conditions under which sugar is formed and distributed in the body in a state of health is very much further advanced than it is at present."

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Lectures and Addresses.

# STATE CARE *VERSUS* COUNTY CARE OF THE INSANE.

BEING THE ANNUAL ADDRESS DELIVERED BEFORE THE NEW YORK NEUROLOGICAL SOCIETY,
*May 7, 1889.*

By GEORGE W. JACOBY, M. D.

The position which this society occupies and has occupied almost since its birth has been one of double character. The one devoted to ourselves, to the study and advancement of neurology in all its minuteness, the other devoted to the public, aiding and guiding it in the formation of opinions upon subjects of which we are supposed to possess special knowledge. Often has the expressed opinion of this society led to the adoption of beneficial and far-reaching reforms. Probably the most pronounced of these was the amelioration in the condition of the insane in public asylums, which in great part was due to the decisive stand which this society took upon this question in 1878 and 1879.

I need not review the tribulations and attacks to which the society was subjected at that time in consequence thereof; it suffices to regard the result attained and to know that these labors were not in vain.

I beg to be excused for recalling to your mind these facts, which are well known and appreciated, but my object is to ask you to retrace your steps and to assist in remedying defects which in their way are greater than those so successfully combated ten years ago. I bespeak your individual and collective support of what must be acknowledged to be the leading humanitarian question of the day. It is that of *State care against county care for the insane.* I am aware that the society as such is in favor of the transfer of the insane of this State from county to State care, as expressed in a resolution adopted over a year ago, but I have met many members who are not so well instructed upon this subject as its importance warrants—members who, I am convinced, will, when they once recognize the import of this change, give all measures tending to its accomplishment their full and active support.

Humanitarian principles make it plain that we owe to the insane the best that we are capable of giving—the best medical treatment, the highest grade of attendants, occupation, instruction, etc. Furthermore, it must be conceded that whatever advance our State asylums may still be capable of, they to-day represent—and this is largely due to the efforts of this society—the best care for the insane thus far attained in this country.

It will also be acknowledged that the State is under obligation to make proper provision for the care of all its insane. This is a principle which has been recognized by nearly all the States of the Union; thus in Ohio, Illinois, Indiana, Kansas, Mississippi, and Dakota provisions for both the acute and chronic insane are made by the State, although the law is not in all of them fully carried out, while in Connecticut, Michigan, and Pennsylvania this obligation is practically fulfilled. Here in New York we have but to take a brief retrospect of the history of legislation for the insane to see that this principle has been repeatedly enunciated. We find that in 1831, before a single State asylum had been erected, a report was made to the Legislature by a commission (the Hon. A. C. Paige, chairman) which contained the recommendation that asylums be erected "of sufficient dimensions and number to accommodate all the insane."

About twenty-five years later, at the convention of the superintendents of the poor held in Utica, the following resolutions were passed:

"*Resolved*, That the State should make ample and suitable provision for all of its insane not able to reside in private families.

"*Resolved*, That no insane person should be treated or in any way taken care of in any county poor-house, or almshouse, or other receptacle provided for, and in which paupers are maintained or supported."

That the idea embodied in the recommendation of 1831 and the resolutions of 1845 was acted upon by the various legislatures is shown by the successive opening of the different State asylums—in 1843 the New York State Lunatic Asylum at Utica, for acute insane; 1869, the Willard Asylum, for chronic insane; 1871, the Hudson River State Hospital and the State Asylum at Middletown; 1880, the Buffalo Asylum; and in 1881 the Binghamton Asylum, for the chronic insane.

The desire of the State thus to make proper provision, first, for its acute, then for its chronic insane, becomes clear.

The first apparent break in this principle was made when in 1871 the Willard Asylum became overcrowded, and, instead of making further provision for the insane by the State, the Legislature empowered the State Board of Charities to exempt any county from the Willard Asylum Act.

What influence this provision has had is shown by the fact that at present, while there are six State hospitals for the pauper insane—three receiving acute, two chronic, and one both acute and chronic cases of insanity—there are nearly twice as many insane in the county poor-houses (excluding New York, Kings, and Monroe Counties) as were found by Dr. Willard in 1865. As the law stands at present, of the sixty counties of the State, all, with the exception of New York, Kings, and Monroe Counties, are obliged to send their acute pauper insane to State hospitals, and forty counties are by law obliged also to do the same with their chronic pauper insane. The others keep their chronic pauper insane by permission of the State Board of Charities, or by virtue of a special act of the Legislature. The present agitation tends simply toward an enforcement of the general law, so that no exemptions shall be granted under any circumstances and all the insane of the State shall be placed under State care. The least that the State, which has deprived the insane of their liberty, can do in return is to guarantee them full protection; and this protection means the furnishing of the best possible care for one and all. Every insane person in the State ought to enjoy the advantages accruing from the progress which has been made in the care of the insane.

That this is not and can not be accorded them in county institutions is conceded. Even admitting that the condition of the insane in county poor-houses is improved when compared to what it was years ago, admitting that the neglect and abuse formerly prevalent are abolished, still every person familiar with the management of State asylums and of county poor-houses must acknowledge that the care furnished by the State is decidedly superior to that furnished by the counties. An investigation by the State Charities Aid Association extending over fourteen years, during which time the poor-houses and almshouses throughout the State were repeatedly visited, verifies this statement, as does also their last report, as well as that of the Commissioner in Lunacy. If we take up the first of these reports, we find among others (and I shall only cite three) the following charges of mismanagement.

Of Erie County it is said:

"A lad, an insane boy of fifteen years, who had some weakness of the bladder and other organs, was found strapped upon an ordinary commode. He was placed there every morning when he was taken out of his bed, and was never taken off from it until evening. That boy was placed in a room where there were at least fifteen sick and insane men and one child. The attendant upon these people was an idiotic man. A child, eleven years of age, apparently insane, was found strapped to some kind of a chair, and, according to statements of the attendant, was not removed from morning until night. At Willard there are for every ten insane persons one attendant, and here only one to twenty-five."

Of Ulster County we read:

"The safety of the inmates has been imperiled by the lack of attendants. One illustration will suffice. From two to four insane are locked up at night in each room. The corridor is locked and the keeper retires for the night to a distant part of the building. One morning the inmates were discovered fighting each other with the slats taken from their beds."

Of Wayne County it is said:

"In the attic were found, in two cells under the slanting roof, two women who were so diseased that it was impossible with the small force of attendants to keep them in proper condition in the halls below. Excepting through their grated doors, the cells were unlighted and unventilated. One of the women was blind; the keeper said 'she would not come out,' so her door was not locked. The other was locked in. During most of the time the attic is unoccupied by any other person, and if the nurse comes here, she must leave the halls below unattended."

Do these excerpts read any better than the descriptions from the time when the insane were thrown into prisons or burned for witchcraft? The present State Commissioner in Lunacy, judging from his general remarks, believes that the insane can be as well cared for in county as in State institutions, but when we analyze his report we find the following complaints made:

*Broome County.*—"A better system of ventilation is needed. . . . The dining-room is underground and damp and unfit for this use. . . . In the poor-house there are now three insane patients who are filthy and demand special attention."

*Clinton County.*—"It is not the custom of this asylum to provide employment for patients, and but five were engaged in any occupation. Pauper inmates and the insane are indiscriminately associated."

*Chenango County.*—"Better ventilation of the female wards 1, 2, 4, and 5 is recommended."

*Cortland County.*—"The water supply is entirely inadequate."

*Lewis County.*—"A better system of ventilation is recommended."

*Oneida County.*—"The old building needs renovation. . . . The single division of one hundred and forty-five (males) I think inadequate for the proper classification of the quiet cases from the disturbed and filthy. . . . A case-book is needed by the attending physician, wherein notes may be made from time to time, thereby affording facilities for recording any change in the mental and physical condition of the insane patients. . . . A male and female night attendant are especially needed, etc."

*Onondaga County.*—"On the day of visitation, July 7th, the keeper, matron, and two of the attendants were absent. Visited again on August 29th. Wards overcrowded, and sleeping-rooms too small for a proper ventilation; the fare was extremely plain and the bread was stale and unpalatable."

*Orange County.*—"The basement is used as a ward for males, one side of which is underground and is damp and unfit for habitation."

*Oswego County.*—"Renovation and better ventilation are needed. The windows might be protected by bars or strong wire screens. . . . A female and male night attendant are needed."

*Wayne County.*—"Wards in the old building are overcrowded and badly ventilated."

If we compare these remarks with those in the same report about State asylums, we are at a loss to comprehend how it is that the commissioner has arrived at any other conclusion than that of State care being vastly superior to county care.

While acknowledging the facts set forth in these abstracts, excuses are sought by the advocates of county care to explain the existence of these conditions. The editor of the "Medico-legal Journal," in the March number of that journal, attributes these facts to the non-enforcement of powers vested in the State Board of Charities, and believes that the abolition of this board would remedy the defects of county care. This erroneous process of reasoning, which has also been applied by others, sees the withered branches of the tree only and does not realize that another and deeper-lying cause is the productive agency. The trouble here is that the agitation, like most movements for asylum reform, is supposed to rest upon isolated and flagrant abuses. This is erroneous, for the fault does not lie with the State Board of Charities, nor with the State Commissioner, nor with the County Superintendent, nor hardly with each individual asylum; but the fault lies with the entire system. The system is bad from beginning to end, and no amount of inspection, no amount of special legislation, can remedy defects which are inherent in the system itself. Local interests and politics govern and influence the care of the insane. A new superintendent of the poor, who is elected every few years, means a new keeper for the poor-house, who in some counties is also elected on the county ticket, and subordinate positions are filled by him as a reward for political services. Even the physician, when one is appointed, is selected on account of his party affiliation and not on account of his skill or professional standing.

The administration of laws, no matter how good they may be, when devolving upon county officials, permits their desire to make an economical showing, and this is necessary, in order to retain their places, to extinguish the natural spark of humanity which they must possess. In the interests of economy, the requisite number of wards will be sacrificed, classification is not attempted or is unworthy of the name, the number of trained attendants becomes inadequate, and the diet and general care for the insane are lowered to the standard deemed sufficient for the poor-house inmates. A uniform standard is adopted, and I think it needs no argument to show that provision sufficient for the ordinary poor-house inmate is entirely inadequate for the necessities of the insane. It is impossible to prevent these and other great abuses from creeping into the management of any institution in which an entire change of officials occurs, and is expected, every few years. It has been suggested that these unstable elements could be eliminated by having a board of non-partisan managers appointed by the county supervisors, or, better still, by having trustees appointed by the Supreme Court, with the government resting in them. These suggestions can only be regarded as half-way measures, cumbersome substitutes for State care.

It is superfluous here to enter into a discussion about the superiority of State care. What our State asylums are is known to every one of our members, but it will do no harm to recall to your memory that the State asylums are governed by a board of trustees, who are appointed by the Governor and serve without compensation. These trustees, who accept the position solely from philanthropic motives, appoint a superintendent, who holds the position for life if competent. Subordinate officers are likewise sure of retaining their positions under similar circumstances.

It is interesting to examine also the other side of the case and see what arguments are adduced by the advocates of county care to warrant its continuance. Not only is it interesting, but I think that a mere enumeration of their points of defense will suffice to convince you that these advocates are either unable or unwilling to answer the arguments and allegations of their opponents.

*Firstly*, it is said that it is cruel to take the insane so far away from home, from relatives and friends, who can not go to see them in the distant State asylums; *secondly*, that the removal of the insane interferes with local self-government, and that "the primitive right of the counties to care for their own insane can not be disputed," because "where taxes are raised, there they should as far as possible be spent"; and, *thirdly*, the financial argument is adduced by which it is attempted to show that a great outlay of money would be needed in order to erect suitable State buildings for *all* the insane, and that, furthermore, State care is more expensive than county care.

The first two arguments hardly deserve serious consideration unless you are willing to place the right of the taxpayer above the welfare of the insane, and the third, which is really of importance, has been successfully answered and controverted by reliable authorities. It would lead us entirely beyond our province to enter upon this question here; but this much is positive, that the American people certainly never were and never will be parsimonious in their charities. For us the best care must be the cheapest.

Finally, as an instance of what makeshifts are used in the place of argument, allow me to cite the following: In the "Annual Report of the State Charities Aid Association for 1887" we find an anonymous communication, which says: "One of our insane girls is soon to bring into the asylum a newly born infant, the father of which is an insane inmate." In the report of the State Commissioner in Lunacy, dated January, 1889, we find that this accusation relates to Wayne County, and affidavits are there printed, made by the keeper of Wayne County Insane Asylum and by the superintendent of the poor of Wayne County, setting forth that during their term of service no "female insane" has become pregnant in the asylum. Only lately it has been shown by Mr. Oscar Craig, of Rochester, one of the State Commissioners of Charities, that these affidavits are only to be taken literally; that the offspring was not that of an *insane* woman, but of an *idiot* woman.

Comments are superfluous. We, as practical men, must also remember that this question is not simply a matter of theory, but that practical experience with the care of the pauper insane of all countries justifies the conclusion which Mr. Letchworth has drawn in his recently published admirable work on the insane in foreign countries, that in the institutions variously designated as poor-houses, work-houses, or almshouses, which contained insane persons, either in separate departments or in ordinary wards, "the provisions for their care did not reach the ordinary standard."

I will now bring these fragmentary remarks to a close, and I shall feel perfectly satisfied if they prove a stimulus to your interest in this question, for I am sure that slight further investigation will satisfactorily demonstrate to you that the interests of the insane are best served, and that they are surest to receive the most intelligent and most humane care, where they are placed directly under State control and supervision.

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**Sale of Morphine in Berlin.**—"There have been so many cases of slow self-poisoning by morphine lately in Berlin," says the "Lancet," "that the evil of indiscriminate poison selling has had to be peremptorily checked. Stringent police orders have been in consequence issued to all chemists with specific directions and precautions as to the sale of morphine by them, and wholesale druggists must not sell morphine to anybody excepting doctors and chemists. These precautions will, no doubt, embarrass persons who have carried a prescription from one chemist to another, as they craved for morphine; and forged prescriptions may also be partly checked."

## Original Communications.

# THE AFTER-TREATMENT OF KOLPO-URETERO-CYSTOTOMY AND OTHER SIMILAR OPERATIONS BY A NEW SYSTEM OF CONTINUOUS IRRIGATION AND DRAINAGE.

BY NATHAN G. BOZEMAN, PH. B., M. D.

MY father, Dr. Nathan Bozeman, published recently an account of his treatment for chronic pyelitis in women by washing out the pelvis of the kidney,* and it will be remembered that this was done for the first time by him in the Woman's Hospital on December 26, 1886. The patient had sustained in parturition very extensive injuries of the urethra, bladder, cervix uteri, and the vesical extremities of both ureters. In this case the end of the left ureter was exposed to view in the everted border of the large coexisting fistulous opening after three months of gradual preparatory treatment by his method of incisions and dilatation. Here the pyelitis, with the choking up of the ureter, existed as a complication of the injuries just mentioned, and the diagnosis of both these conditions was made when the patient was almost in a dying condition from septic poisoning.

On seeing the marked relief of the patient from her threatening symptoms which occurred almost immediately after washing out the pelvis of the kidney, Dr. Bozeman spoke of the great value of the procedure in the presence of the house staff. He expressed then his intention, as soon as an opportunity offered, to extend the same practice to the treatment of chronic pyelitis in cases where no fistula coexisted by exposing, through the vesico-vaginal septum, the extremity of the ureter of the affected kidney. Three weeks later, curiously enough, he received a letter, dated January 23, 1887, from a lady in Charleston, S. C., whose sister, a child three years old, he had operated on for stone thirty years before, removing from the bladder a calculus of the size of a hazel-nut. She informed him that she had been and was still a great sufferer; and as he believed from her description that the trouble arose from pyelitis calculosa, he at once advised her to come to New York, at the same time acquainting her with the nature of the operation which he contemplated performing. At the time she came on to this city I was house surgeon in the Woman's Hospital, where she was treated, and the principal complication in the case proved to be an exaggerated form of retroversion of the uterus attended with engorgement and occasional metrorrhagia. The cervix uteri was inclined to the right, the side of the affected ureter and kidney. The prominent features of the history pertaining to the kidney, ureter, and bladder were hæmaturia of two years and a half standing, renal colic, with passage of two calculi at different times, and vesical tenesmus. Gradual preparatory treatment by columning the vagina with dry cotton in the supported knee-elbow position was carried on for several weeks, together with the use of tonics and supporting diet, in order to get the uterus in an elevated and easy position for drainage and to build up the patient's general health.

For this patient Dr. Bozeman devised his utero-vesico-urethral drainage support, for the purpose of draining away the urine after the establishment of the proposed artificial fistula.* This original instrument he modified somewhat after the operation by introducing a tube for conducting a stream of water into it, so as to secure at the same time the good effects of continuous irrigation of the vagina and bladder as well as drainage. (See Fig. 1.) He proposed to accomplish this by flooding the instrument and then allowing the water to escape through the soft-rubber tube attached to its nozzle. Appreciating the soothing effects of warm water and emollient solutions on the diseased mucous membrane of the vagina and bladder after operations, even with his drainage instrument in position and a soft catheter introduced through the urethra, he found that the bladder could be efficiently douched, the fluid finding an easy outflow through the instrument. A soft-rubber catheter, No. 20 F., with the closed end cut off, doubled, and having three or four perforations near its middle, so as to allow water to pass into the vagina and bladder to serve as a drainage tube, he also tried with more or less satisfactory results. By a loop of wire passing through it and bent upon itself, the appliance was made self-retaining, as shown in Fig. 2. Into one of the two ends which projected outside of the vulva a stream of water was thrown with a piston syringe, and collected as it flowed out at the other end. By this mode of douching comparatively little of the water escaped into the vagina and bladder, but the current carried along with it the urine as it was secreted. Dr. Bozeman further extended this principle of douching and drainage by bending sharply forward the portion of the tube corresponding to the fistula, so as to make the perforated loop thus formed enter the bladder through the fistula. But he soon found that the pressure of the loop on the edges of the fistula and the force of the jets of water through the holes directed against the walls of the inflamed bladder could not be borne by the patient long enough for the douching to be of any permanent benefit, and he therefore gave up the device of the small anterior loop as impracticable, continuing, however, to use the bent tube as shown. It will be seen that all these expedients for securing the beneficial effects of douching and drainage required the constant attention of a nurse.

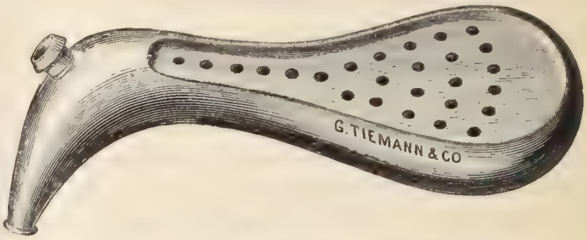

FIG. 1.—Bozeman's utero-vesico-urethral drainage support, with a tube projecting into the instrument for continuous irrigation.

Now, in order to overcome the defects of the several appliances referred to of my father's, and to secure the beneficial effects of painless and continuous warm-water douching of the vagina and bladder with effective drainage, which he himself regarded as of the greatest practical importance, I instituted a series of experiments from which I hoped to attain this end: to introduce into the most dependent portion of the vagina a small amount of warm water at a time, which does not cause distension, and to have it accumulate there, thus bathing in it the raw edges of the fistula, the mucous membranes of the vagina and bladder, and diluting the urine. But to make this application of warm water continuous it has been necessary to devise a self-retaining douche-tip which can be easily adjusted to any case, and combine a system of irrigation and drainage by automatically supplying water and draining it away with diluted urine and discharges, without disturbing the patient or causing vesical tenesmus. It has been a difficult task, and has occupied my attention for nearly a year; but I am confident now that I can apply continuous vaginal irrigation and drainage and keep the patient perfectly dry in any case that may present itself. I have had opportunities to test this in ten cases after kolpo-uretero-cystotomy, most of them in my father's service at the Woman's Hospital, and in one case of carcinoma of the cervix uteri where the disease had extended into the bladder, forming a vesico-vaginal fistula. In this case, which occurred in my service at St. Francis Hospital, Jersey City, I was enabled to apply appropriate solutions continuously and thoroughly to the diseased surfaces and drain them off without disturbing the patient, and I believe that this mode of treatment is of very great service in the advanced stages of carcinoma of the cervix uteri, especially when the bladder is implicated.

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* "American Jour. of Medical Sciences," March and April, 1888.

* *Op. cit.*

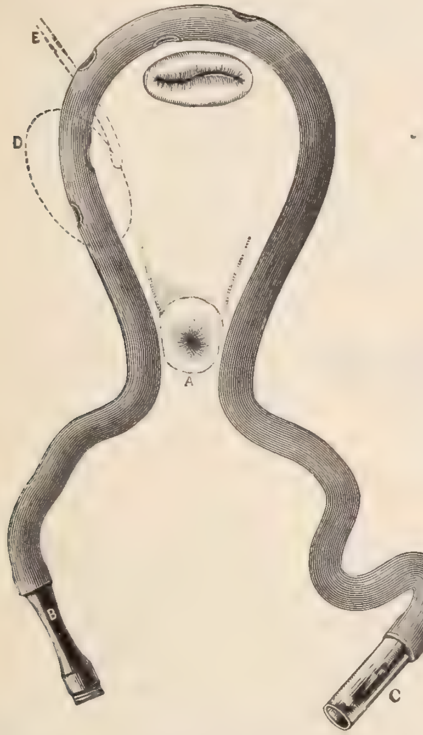

Fig. 2.—Dr. Bozeman's soft-rubber irrigating tube, made self-retaining by a stiff wire inside the intravaginal portion. Drawn half size, and in the supported knee-elbow position, to show the relationship of the tube to the urethra, A, the fistula, D, the ureter, E, and the cervix uteri; B, nozzle of piston syringe; C, outflow.

I will describe as briefly as possible the apparatus, which can be easily constructed of glass and rubber tubing by any one, though Messrs. George Tiemann & Co. have been very obliging in making it from the models which I have furnished them. The important features of it are:

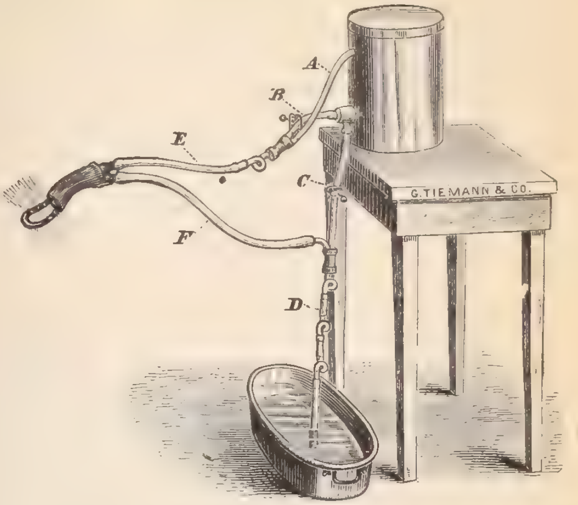

Fig. 3.—Irrigator and self-exhausting drain for continuous vaginal douching.

1. A double-current vaginal douche-tip, combining the principles of the body and nozzle of Bozeman's utero-vesico-urethral drainage support, which can be easily introduced and worn comfortably by the patient.

2. An intermittent siphon, by means of which a current of warm water and heated air is introduced into the vagina from a covered vessel slightly elevated above the patient.

3. A suction-tube which automatically removes the air and fluid from the vagina, and deposits the latter in a convenient receptacle.

*The double-current vaginal douche-tip* (Fig. 4) is three inches and a half long, is made of hard rubber, and is partly covered with a soft-rubber sheath. The intravaginal portion consists of a hard-rubber tube three sixteenths of an inch thick, which is bent at the middle in a cordate form to render it self-retaining, and is shaped in such a way as to conform to the axis of the vagina. The portion which fits under the cervix uteri is deeply grooved, and this converts it into an open tube. The two ends are inserted, a quarter of an inch apart, into a bulb of hard rubber three quarters

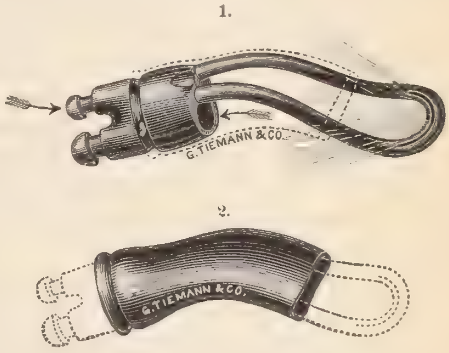

Fig. 4.—1. Double-current vaginal douche-tip, half size. 2. Soft-rubber sheath.*

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* In some cases I use a flat grooved projection from the vulvar portion for the purpose of keeping patulous the rubber sheath, which sometimes has a tendency to collapse.

of an inch thick and one inch long, which forms the vulval portion of the instrument and constitutes a kind of wedge which occludes the vagina. This bulb is perforated by two openings, and the upper one, three sixteenths of an inch in diameter, bifurcates to form the sockets into which the open ends of the hard-rubber tube fit, and through which the irrigating fluid passes into the vagina. The lower one, a quarter of an inch in diameter, is for the outflow. Both of these openings terminate on the outer surface of the bulb in two projections for attaching soft-rubber tubing. A soft-rubber sheath fitted tightly over the bulb and a part of the intravaginal portion forms a continuation of the outflow aperture into the vagina.

*The intermittent siphon* (see Ganot's "Physics," § 201, p. 161) consists of a cavity formed by a soft-rubber tube two inches long, which is occluded at either end by rubber stoppers. The upper one has two perforations into which fit two short pieces of hard-rubber tubing, one being connected by the tube B (Fig. 3) with the lower part of the vessel containing the irrigating fluid, the other by the tube A (Fig. 3) with the upper part above the level of the fluid. Through the lower stopper is thrust the end A (Fig. 5) of a glass tube having a diameter of three sixteenths of an inch, which is bent in a small coil, the other end C (Fig. 5) being connected with the double-current vaginal douche-tip by the tube E (Fig. 3). When the flow into the small cylindrical cavity, which is regulated by the clamp near the letter B (Fig. 3), is less than that through the tube E (Fig. 3), there is an intermittent discharge of fluid and air into the vagina. The air is drawn in from the top of the vessel each time that the intermittent siphon formed by the bent glass tube empties itself. The amount of air thus introduced into the vagina depends upon the difference in the quantity of fluid supplied to the siphon and discharged by it in a given time, this being regulated by the elevation of the vessel above the bed. The elevation required varies in different patients, the average being between twelve and eighteen inches. It can be easily determined by experiment, and precaution must be taken to admit the minimum amount of air, which is indicated by the passage of a long column of water through the glass tube, followed by three or four bubbles of air. This means that the rate of supply and discharge is nearly equal; so that the result, so far as the patient's feelings are concerned, is a continuous current.

*The suction tube* is made up of three separate coils of glass tubing, A, B, C (Fig. 5), having a caliber of three sixteenths of an inch, which are joined one to another by soft-rubber tubing. To one extremity of this series of coils, D (Fig. 3), is suspended a rubber tube ten inches long. The other end passes through a rubber stopper, over which is stretched a rubber tube two inches long, and this is closed by another rubber stopper into which is fastened the end of a glass tube bent at right angles and a short hard-rubber tube. The latter serves to suspend the whole from a vessel over it, and fits a rubber tube, C (Fig. 3), twelve to eighteen inches long, which is supplied with a Hoffmann's clamp.*

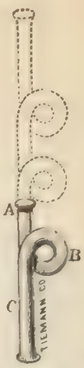

FIG. 5.—A B C, suction tube. Length two inches, diameter of tube three sixteenths of an inch, diameter of coil half an inch. Two additional coils drawn in dotted lines.

By means of this series of coils, when in a vertical position, an aspirating force is exerted along the tube F (Fig. 3) by the passage through them of a very small quantity of water from the vessel above them, the amount of the water being regulated by the clamp near the letter C (Fig. 3). This device, which is familiar to every student of practical chemistry, was suggested to my mind from having seen and employed, in the chemical laboratory at Yale University in 1881, long glass tubes, bent in a succession of coils, such as are represented by dotted lines in Fig. 5. When suspended in a vertical position from a funnel, they collected the few drops of the filtrate of a slow filtering precipitate in order to convert them into columns of fluid, which, falling down through the vertical portions of the tubes, carried bubbles of air with them and exerted suction on the filter paper, thus accelerating the process of filtering. The object in having the coils separate and joined together by rubber tubing is to make them more portable and less liable to break. They should always be made of glass, in order that one may see just how to regulate the flow through them. The T-shaped tube (Fig. 6) makes the apparatus complete. The tube B (Fig. 3) being connected with the short horizontal arm, and the tube C (Fig. 3) with the vertical projection, it is only necessary, for the application of continuous irrigation, to have a convenient vessel, with a small opening near the top, into which the tube A (Fig. 3) is passed, and an orifice in the bottom through which the long arm of the T-tube, provided with a screw-thread, is thrust, the side of the vessel being then clamped between the nut and the rubber stopper.

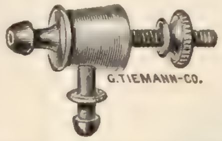

FIG. 6.—T-tube with screw and nut for clamping side of vessel.

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* In the "Atlanta Medical and Surgical Journal" for March, 1889, appeared an article, by Dr. William B. Gilmer, describing a new pump and its uses in medicine. The introduction by him of the inverted U-tube in the cylindrical cavity increases the efficacy of his pump for large tubes, the limit, however, being an eighth of an inch. I have never made any clinical use of this pump on account of the small size of the tubes, since they do not afford a sufficient outflow for irrigation, and hence very soon become clogged by mucus sticking to their sides. By the use of the coils described in the text, tubes having a caliber of a quarter of an inch very quickly produce exhaustion of air, and require very little water to do it, while a greater quantity of fluid can pass through them, which increases the suction without siphoning. All the clinical experiments described by Dr. Gilmer and many others of a similar character were made by Dr. Bozeman on his patients with the idea of utilizing the pumping action of the bladder resulting from the rise and fall of the diaphragm and viscera in respiration. This phenomenon he demonstrated to both Dr. Gilmer and myself, and he has applied it to great advantage in his new form of utero-vesical drainage support to remove the urine from the instrument as fast as it is collected. The form of vaginal drainage tube (Fig. 2) which Dr. Bozeman devised and used, and which he showed to Dr. Gilmer when he was living with us in New York, has also been described in three different shapes by the latter.

In a warm room, with an agate-ware vessel holding one gallon, the irrigation can be kept up for an hour, when it becomes necessary to renew the hot water; but when used as a simple vaginal douche, the same amount of water will run through in half the time.

Dr. Nathan Bozeman has adopted this form of continuous vaginal douching as a part of the after-treatment of his operations of kolpo-uretero-cystotomy and kolpo-cystotomy. The douche-tip is introduced at the time of the operation, and the irrigation kept up almost constantly until the wound in the vesico-vaginal septum has cicatrized (about two weeks), when one of his improved form of utero-vesical drainage supports is fitted, which keeps the patient dry.

The advantage maintained for this system of irrigation and drainage is the facility with which hot water can be continuously applied to the diseased mucous membrane of the bladder, vagina, and cervix uteri, and drained off, which dilutes the urine, protects the raw edges of the wound, hastens the granulating process, and adds greatly to the patient's comfort. By the introduction of a small quantity of air into the vagina, suction on the tissues is prevented, and the patient is enabled to change her position in bed, and yet still be kept perfectly dry. Patients learn very soon how to regulate the apparatus themselves, and it becomes a source of amusement to them. In conclusion, I wish to express my thanks to Dr. L. G. Baldwin and Dr. A. S. Bird, of the house staff of the Woman's Hospital, for the kind assistance they have afforded me in introducing this system of drainage in Dr. Nathan Bozeman's service at that institution.

9 West Thirty-first Street.

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# PRIMARY SARCOMA OF THE IRIS.*

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Primary sarcoma of the iris is of such rare occurrence that I have willingly acceded to the request to prepare the following sketch in which it will be my aim to present the pathological anatomy as revealed by those instances of this disease so far thoroughly studied. I shall also venture to indicate what I conceive to be the practical lesson to be deduced from an examination of the cases published up to the present time.

## *Cases of Sarcoma of the Chorioid in which Enucleation of the Eyeball was done.*

The following case has been published by myself in the "Medical Analectic," vol. v, New York, June 7, 1888. I have recently obtained from my friend, Dr. David Webster, additional notes bearing on the history of the case which, it was believed, did not exist:

Case I.†—November 9, 1880. Martha B., aged forty-seven years. Patient had noticed discoloration at site of tumor in iris for many years—at least five or six years. About fifteen months ago sight of left eye became obscured, this condition lasting a day or two. Eye reddened at the time, but was not painful. Had no pain at any time. Periodical obscurations of sight frequent since then. There is slight circumcorneal injection. Pupil dilates very nearly circularly to atropine. No corneal opacity. No lesion of either lens, vitreous, or fundus. No history of syphilis. Growth springs from anterior aspect of iris, is lobulated, and vascular. V. = $\frac{20}{100}$, each eye; no improvement with glasses. Dr. C. R. Agnew removed the tumor by including it in an iridectomy. Considerable inflammation followed operation, and it was decided—in view, if I remember correctly, of the probable invasion of the deeper structures of the eye by the disease—to enucleate the globe, which was done by Dr. Agnew within a week after the performance of iridectomy. At the enucleation the partially healed corneal wound ruptured and the lens escaped.

Microscopic examination: Cornea in vicinity of wound slightly infiltrated with pus cells; in the sclera in this region there is considerable purulent infiltration. On the outside, corneal wound is almost entirely bridged over with organized connective tissue; within, it is only partially closed. In some of the sections is seen a fragment of iris which had prolapsed into corneal wound. Iris densely infiltrated with pus cells. In stump of iris is an infiltration with cells looking not unlike some cells near tumor in piece of iris removed by iridectomy, but they are not associated with them, and Dr. Prudden informs me that he does not attach any specific character to these cells. There remains no trace of sarcomatous tissue in the eye; the tumor was, therefore, entirely removed by the iridectomy. Just below point of excision of iris is a small dense collection of pus cells beneath uveal layer, and there is an extensive purulent infiltration of pars ciliaris retinæ in this region; here, too, between vitreous and pars ciliaris retinæ is a collection of blood and pus cells. Chorioidal vessels throughout engorged with blood.

I learned in May, 1888, that the patient was living and in good health.

Case II.—Albrecht von Graefe's case. Reported by J. Hirschberg, "Archiv f. Ophthal.," vol. xiv, 3, p. 285. Patient was a man, thirty-eight years old. Anterior chamber for a greater part filled with a dark mass with a saturated, dark-brown, glistening surface. Tumor first noticed one year before consulting von Graefe. Had developed without pain, redness, or other irritation of the eye. In last few weeks the growth of the tumor had been particularly rapid. Enucleation.

Diagnosis: Pigmented spindle-celled sarcoma. The starting point was believed to be from the anterior layers of the iris, as healthy iris stroma was situated behind peripheric portion of the tumor.

Case III.—Fano, "L'Union méd.," 1865, No. 59, p. 343. Man, aged nineteen years. Tumor removed by abscission of anterior portion of eyeball. Six months later, relapse in remaining portions of bulbus, which was removed. Seven months after this last operation there were no signs of return of the disease. Operation was done in the third stage of the disease.

Case IV.—Schiess, Virchow's "Arch.," lxix, 1876, p. 100. Woman, aged fifty-five years. Never had pain in eye. Pigmented spindle-celled sarcoma.

Case V.—Quaglino and Guaita, "Ann. d'ottalm.," 1877, part 2, and 1879, part 2. Had existed for three months; was of yellowish-red color. Enucleation, followed by phlegmon of orbit.

Case VI.—Warren Tay, "Ophthal. Hosp. Reports," v, 1866, p. 230. Man, aged twenty-five years. Growth of brown color. First noticed ten years before operation. Neighboring ciliary processes involved.

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* Read before the Section in Ophthalmology of the New York Academy of Medicine, March 18, 1889.

† I am indebted to Dr. T. Mitchell Prudden, director of the pathological laboratory of the College of Physicians and Surgeons, New York, for placing at my disposal for study his sections of the eye in this case.

Case VII.—Argyll Robertson and H. Knapp, "Archives of Ophthal.," vol. iii, p. 106. Woman, aged twenty-four years. Tumor 1‴ in length, ½‴ in breadth, of a light-brown color, situated at upper and outer ciliary margin of iris. Vision limited to counting of fingers held close before the eye. Glaucomatous cupping of optic nerve. Tension markedly increased. Blood-vessels of tumor very numerous and large. There were many small tumors in iris which were believed to be the product of dissemination from the primary larger tumor. The disease was limited to the iris. All the other coats of the eye were found in a healthy condition. Round-celled melano-sarcoma.

Case VIII.—J. Dreschfeld (under care of David Little), "Lancet," January 16, 1875, p. 82. Woman, aged fifty-three. Tumor had developed in course of two years and its growth had been attended by repeated hæmorrhages into anterior chamber. Tumor was of a reddish-gray color, about size of a split pea, situated in lower half of iris. Eye was painful and sight was impaired. T + 2. Tumor was firmly attached to cornea. The growth was a spindle-celled sarcoma.

Case IX.—Lebrun, "Annales d'oculistique," lx, p. 208, 1868. Woman, aged thirty-six years. Eye was in glaucomatous condition. Tumor first removed by iridectomy. Thirteen days later the eyeball was enucleated.

Case X.—J. Thalberg, "Arch. of Ophthal.," vol. xiii, p. 179. Woman, aged sixty-four. Operation on right eye for cataract was followed by constant pain in the temporal region, which did not yield to any remedy. Three months after the extraction the patient was admitted to the hospital with symptoms of irido-cyclitis. There was exudation in the pupillary space, with small remnants of cataract, deep episcleral injection, severe ciliary neuralgia, and tenderness to pressure. The pain and injection were diminished by atropine and artificial leech, hydrate of chloral, blue ointment applied to the forehead, laxatives, etc. Patient was discharged four weeks later. She returned after a month with marked episcleral injection, ciliary neuralgia, tenderness to the touch, swelling of the iris, and turbid aqueous humor. Under the same treatment the symptoms disappeared again, leaving only some photophobia. She was again discharged after about six weeks' treatment. These attacks were repeated a number of times, until a year after the extraction, the S = 0, and the pain increasing, she asked to have the eye removed, which was done, the healing being normal.

Macroscopic examination: The anterior chamber of the enucleated eye was filled with a soft, white mass which was firmly adherent to the iris. The iris and ciliary body were thickened. The cornea also was thickened. There were no other macroscopic changes in the other parts of the globe.

The microscopic examination showed that the white mass in the anterior chamber was a *round-celled sarcoma.* Growth began at pupillary margin and reached beyond the sphincter of the iris, and in the thickest portion touched Descemet's membrane. The whole uveal tract showed abundance of pigmented round, oval, spindle- and star-shaped cells. The ciliary portion of the iris, which was not covered with the neoplasm, was increased to twice its normal thickness by the lymphoid cells. Where tumor touched Descemet's membrane the cornea was considerably thickened and infiltrated, and blood-vessels entered the tumor from the cornea. This was the only place where blood-vessels were seen to enter the growth. Tumor had not entered iris itself.

In the foregoing case it appears that the starting-point of the neoplasm was the endothelium of the iris.

The following case was reported at a meeting of the Section in Ophthalmology of the New York Academy of Medicine, 1887, by Dr. H. Knapp:

Case XI.—Woman, aged fifty-three years. Four months before seen by Knapp patient first noticed that sight of left eye had begun to be impaired, and that a small tumor was visible in the iris. Growth had increased rather rapidly, and the eye was at times painful and congested. When first seen by Knapp eye was free from irritation, of normal size and tension, but its vision was reduced to quantitative perception of light with perfect localization of candle. Tumor was of a reddish-white color, size of a cherry-stone, situated at outer, upper part of iris, and extended over adjacent third of pupil. Lens was cataractous, pupil irregular; pupillary edge adherent to lens all around. Eye moved freely, and was not painful, either spontaneously or to touch. Knapp determined to remove eyeball, chiefly for reason that the pseudoplasm had damaged the adjacent structures so much as to make restoration of useful vision out of question. Eye enucleated without accident, recovery taking place in a few days. No discomfort since.

Examination of eye: Tumor was somewhat larger than displaced crystalline lens; 8 mm. long, 5 mm. broad; occupied iris from ciliary to pupillary margin. Starting-point seemed to have been situated in root of iris, quite near ciliary processes. Besides displacement of lens obliquely into vitreous, nothing remarkable was observed in other parts of eye.

Tumor was a round-celled sarcoma. Whole tumor pervaded by a rich network of blood-vessels, with delicate walls, connecting with vessels of ciliary processes. Dense accumulations of round cells, with large nuclei and shining nucleoli. There was no secondary tumor, nor any alteration worth mentioning in the other parts of the eye. The diagnosis was that of a *tubular round-celled leuco-sarcoma of the iris.*

The following case was reported at the meeting at which this paper was read: *

Case XII.—Dr. David Webster and Dr. Ira Van Gieson. Patient was a woman, aged sixty years. Tumor first noticed four weeks before she consulted Dr. Webster, at which time the eye was apparently not inflamed, but tension was + with arterial pulsation; no glaucomatous excavation of the nerve. V. = $\frac{20}{70}$; $\frac{20}{20}$ with + 1·5 D. No pain. How long growth had actually existed was not known, but it had probably been present for years. The microscopic examination showed the tumor to be pedicellate. It originated in the stroma of the iris without a definite boundary-line. Ligamentum pectinatum infiltrated with sarcoma cells; some of same cells around Schlemm's canal, the lumen of which was markedly narrowed. Anterior surface of iris was, in different places between site of growth and angle of iris, infiltrated with pigmented, spindle, and round cells. The disease appeared to have extended along the anterior surface of the iris, for the infiltrations were all associated. The ciliary body proper was not involved, nor were the other parts of the eye.

Tumor was a *pigmented spindle-celled sarcoma.*

### *Cases in which no Operation was performed.*

Case I.—D. B. St. John Roosa, "Transactions of American Ophthalmological Society," 1869, p. 14. Excellent colored plate.

Case II.—Albrecht v. Graefe, Graefe's "Arch.," 1854, vol. i, part 1, p. 414. No details given.

Case III.—Stoeber, "Annal. d'oc.," xxx, 1853, p. 264.

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* This case will be published, with a woodcut, in the forthcoming number of the "Archives of Ophthalmology," vol. xviii, 1889, No. 1.

Man, aged sixty-two years. Brown growth noticed in iris five years and a half before death, which occurred in the third stage of the disease, with brain symptoms.

Case IV.—Albrecht v. Graefe, Graefe's "Arch.," i, 1854, 1, p. 414. V. Graefe called it a melanotic growth.

### *Cases of Sarcoma of the Iris in which the Growth was successfully removed.*

Case I.—C. J. Kipp, "Archives of Ophthal.," vol. v, 1876, p. 34.′ Man, aged thirty-six years. Growth was of a flesh-color. First noticed twelve years before. With exception of part of iris from which tumor grew, all parts of eye were healthy. *Spindle-celled sarcoma, slightly pigmented.*

Cases II and III.—Arlt, Graefe u. Saemisch, "Handbuch der Augenheilk.," vol. iii, 1874, capt. ii, p. 420. Arlt alludes to his having known two cases in which the growth in the iris was successfully removed without enucleation. No details.

H. Knapp, "Archives of Ophthal.," vol. viii, 1879, p. 82. Knapp reports three cases of *successful removal of sarcoma of iris, with preservation of sight:*

Case IV.—Man, aged thirty-six. Tumor occupied fully one third of iris. It was *white*, slightly vascular. No symptoms of irritation. Fundus normal. Operation followed by moderately intense irido-cyclitis with slight receding scar. Eye free from any irritation six weeks after operation, and remained so as long as patient was under Knapp's observation, which was about a year. Tumor consisted of *white spindle cells* closely packed together; it originated in stroma of iris without a definite line of demarkation.

Case V.—Woman, aged thirty-five years. *Blackish* tumor, of the apparent size of a small pea. Had been noticed since many years. For three or four years there had been repeated attacks of iritis. The last attacks witnessed by Knapp were accompanied by *turbidity of the ocular media and increase of tension.* They, however, yielded to antiphlogistic treatment, leaving vision and eye in previous condition. V. = $\frac{20}{200}$. During three years which had elapsed since operation only two very mild attacks of iritis had taken place, which disappeared in a few days.

Structure of growth: Melanotic spindle-celled sarcoma, with considerable admixture of fibrous intercellular substance. It grew from stroma of iris without a definite boundary-line, but also without infiltration of the neighboring tissue.

Case VI.—Man, aged twenty-two years. Ten years before, small speck was noticed in left eye. Felt no inconvenience in eye until four years before seen by Knapp, when from time to time there appeared a veil-like obscuration of the visual field, lasting the whole day, but disappearing when he could sleep during the day. Last winter obscurations were more frequent, and accompanied by ocular and circumorbital pain, injection, and lacrymation. During month before consulting Knapp he had four or five attacks accompanied by halos. They rendered him almost blind at the time, and caused violent pain and lacrymation. When first seen, exterior T., S. and F. normal. Tumor arose from outer two thirds of iris, projected into anterior chamber, and encroached upon pupillary area as far as its center. Color *yellowish-red* and studded with a number of red dots and small lines. Media clear; pupil clear and reacted freely; low degree of retinal congestion; retina adjacent to disc slightly veiled. One week previous to operation patient had a severe glaucomatous attack.

Case VII.—Brudenell Carter, "Transactions of Clinical Society of London," vol. viii, 1873, p. 60.

### *Case of Sarcoma of both Irides.*

Boy, aged fifteen years. In *left* iris was one tumor about size of split pea seated on lower and inner quadrant of left iris extending to margin of anterior chamber, encroaching somewhat upon pupil, and lying in contact with inner surface of cornea. There was a zone of injection around cornea.

In *right eye* were two small growths of a similar character, as large as pin-heads, springing from outer part of margin of the iris. This eye was in other respects healthy, and its vision was unaffected.

The tumor of left eye was removed by including it in an iridectomy. The wound left by operation united readily, but cornea become opaque at its posterior portion, where it had been in contact with the growth. Two or three days later a very slight and insidious iritis appeared. Under atropine, and later daturine, the irritation gradually subsided, and the corneal opacity had much diminished at time of reporting case. At the same time, however, a fresh tumor appeared in the left iris at the outer margin. The growth removed was a *round-celled sarcoma.*

Case VIII.—A. Krückow, "Wjestnik. Ophth.," May–June, 1886: Woman, aged twenty-eight years. Patient had noticed a "black" spot in iris for ten years. Tumor was dark-brown in color, filled half of pupil, and was in contact with posterior surface of cornea. Four months before operation there had been hæmorrhage into anterior chamber. Tumor was successfully removed and proved to be a *melano-sarcoma.*

Case IX.—Zellweger, "Klin. Monatsbl. f. Augenheilkunde," 1888, xvi, 366: Woman, aged seventy-five years. Patient had noticed for a long time a small spot in lower part of iris. Since six or seven weeks this spot had begun to grow faster; the sight had also deteriorated. No pain or other disturbance. Tumor small, 3 mm. broad, 2 mm. high, of a *pale-pink color.* At apex of growth color was of a deeper red, and fine ectasic blood-vessels were visible at that place. Counts fingers at 2½ mm. Eye absolutely free from irritation; aqueous humor wholly clear. Tension normal. Incipient cataract. Patient would not consent to operation, but returned three weeks later with tumor larger, reaching margin of pupil. Eye still free from irritation. Tumor removed by Professor Haab. Cut off tumor close to ligamentum pectinatum. Healing rapid under wet sublimate-solution dressing. Tumor was an *unpigmented spindle-celled sarcoma.*

In all, twenty-five cases of sarcoma of the iris have been recorded. The case of Berthold, which has been classed in this category by writers, I have, for obvious reasons, omitted from my list.

The foregoing cases show that in color sarcoma of the iris varies. It may be *flesh-colored*, *reddish-gray*, *blackish*, or *light-brown*, the color depending on the amount or absence of pigmentation and the degree of vascularity.

In the majority of the cases the tumor was believed to have originated in the anterior portion of the iris. In one case it originated from the middle layer; in another it developed from the posterior surface of the iris. In Thalberg's case the endothelium of the iris was shown to have been the starting-point of the growth. This case is of special interest, as it relates to the endothelium of the iris in a subject twenty-four years old. The anterior limiting layer of the iris consists of reticulated bundles of fine connective tissue, rich in intercellular elements, the latter having short and long processes, and being permeated, in varying degree, with pigment. The free surface of this layer is, in children, covered with a single row of flat, polygonal endothelial cells. It has been denied that this endothelium is present in the adult. G. Schwalbe, J. Michel, and others state that it is of constant occurrence. These cells certainly are demonstrable in the iris of the adult, only they do not appear so plainly as a distinct layer as is the case in very young children. In Robertson's case there were several tumors in the iris, all the other coats of the eye having been found in a healthy condition. It appears, therefore, that sarcoma may develop in any of the layers of the iris, just as it seems that this disease may develop in any of the layers of the chorioid. The pigment variety prevailed. The youngest subject was fifteen years, the oldest seventy-five years of age. It is seen that the disease may be present for many years without giving rise to any symptoms of irritation.

In seven cases the growth was successfully removed with preservation of sight.

It is further shown that when the growth had reached the second or inflammatory stage, giving rise to a glaucomatous attack, the removal of the tumor was successful as to immediate signs of still existing malignant disease. The wound after the operation has generally healed kindly; but even where, as in Knapp's case, the operation was followed by considerable inflammation, this yielded to treatment. So far the only instance of local relapse recorded is that published by Carter; but it is not proved that there was actually a recurrence in this case. In one case in which no operation was done death occurred in the third stage of the disease with brain symptoms, the tumor having been present for five years and a half.

There is, however, no instance on record of the return of the disease in the orbital tissues where the eyeball had been removed, nor am I acquainted with any case in which after enucleation the pseudoplasm has appeared through metastasis in other organs of the body.

*Prognosis.*—It has been shown in sarcoma of the chorioid in which the eye was enucleated in the first stage of the disease that the prognosis as to local relapse is rendered more favorable after the first six months succeeding the operation, the majority of the relapses having occurred within this period of time. This observation applies, of course, only to those cases in which the eye was removed in the first stage, the danger of local relapse and metastasis being very greatly increased when the operation is done in the second and third stages, metastatic sarcoma of the liver having in such instances been known to occur twelve or more years after the enucleation of an eyeball containing a sarcoma of the chorioid.

I am of the opinion that the prognosis should be the same in sarcoma of the iris as in sarcoma of the chorioid. In sarcoma of the iris we have a disease which is for many years limited to a comparatively small area of the iris. It is furthermore seen that tumors of the iris follow the same clinical course as those of the ciliary body, chorioid, and retina—*i. e.*, there is a stage in which there is no irritation, and an inflammatory stage. When the inflammatory stage has been reached we are by no means able to exclude participation of the ciliary body and chorioid in the malignant process, as in those cases of sarcoma of the iris (cases of Argyll Robertson and Knapp) in which there were acute inflammatory symptoms with a glaucomatous condition. It is clearly shown that the ciliary body was involved in two of the cases of sarcoma of the iris in which enucleation was done, but the microscopic examination revealed an inflammatory process in that region, all evidences of sarcoma being absent from the inflamed ciliary body, it having been shown that the sarcoma was positively limited to a circumscribed area of the iris. In such a case the removal of the tumor of the iris might have been successful, but in such instances we could not have said that this simple inflammatory process was not an extension of the original disease. Webster's case is one in point. In this case the tumor might have been included in an iridectomy, but the sarcoma in the angle of the iris would have remained and extended, and nothing would have been gained by the operation. The extension of the disease to the angle of the iris could not be determined before the removal of the eyeball, but it is a strong argument for the removal of the eye in the inflammatory stage.

I am in favor of removing the tumor of the iris by including it in an iridectomy in the first stage of the disease before any signs of irritation have set in, and the operation should be done as soon as the tumor is discovered; but I am opposed to this procedure in those cases in which the second stage has been reached, giving rise to inflammation and increased intra-ocular tension, for the reason that we are in such cases unable to differentiate between a simple inflammatory and an extension of the malignant process. Therefore I am decidedly opposed to any attempt to save the eye in the second stage of the disease; such an eye should, in my judgment, be enucleated. In the first case described by myself in this paper (Agnew's), in which the growth was successfully and, as established by an examination of the enucleated eyeball, wholly removed by the iridectomy, the operation was followed by suppuration in the globe, calling for its removal. The operation should therefore be performed under strict antiseptic precautions.

39 WEST THIRTY-SECOND STREET.

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# A DEATH FROM ETHER.*

BY W. DUNCAN McKIM, M. D.

DEATH from the administration of sulphuric ether is of such rare occurrence that the case about to be narrated seems to merit a place on the records:

The patient was a Frenchman, aged forty-six. For a year or more he had been suffering from tubercular disease of the tarsus of one foot. At the time of his admission to the French Hospital the disease had become widely diffused. The general appearance of the patient was bad. There were aortic and mitral systolic murmurs, and the heart-sounds were feeble. The urine contained a moderate amount of albumin. The patient's condition appeared not only to justify but to demand removal of the tubercular foot, and I prepared, therefore, on January 25, 1889, to do a Syme's amputation at the ankle joint.

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* Read before the New York Clinical Society, March 26, 1889.

In the presence of the attending staff and internes, after the administration of half an ounce of whisky, the etherization was commenced. In a few minutes the respiration faltered and the patient became deeply cyanosed, but this somewhat alarming condition quickly passed away. About five minutes later, the assistant having the pulse under observation suddenly announced that it had ceased. Immediately hypodermatic injections of brandy, ether, and sulphate of atropine were given; amyl nitrite was applied to the nostrils, artificial respiration was practiced, and the head and shoulders were depressed by elevation of the foot of the table; but all was in vain; the patient was dead.

The ether used was the æther fortior manufactured by Squibb.

The following is the report of the autopsy made by Dr. G. G. Van Schaick, pathologist to the French Hospital, in the presence of the coroner.

"No rigor mortis. Body well nourished. *Lungs:* Very small, otherwise normal. Left pleura, a few adhesions, no fluid. Right pleura, no fluid, many adhesions. Lungs slightly congested. *Heart:* Hypertrophied; pericardium everywhere adherent; coronary arteries of small caliber; slight atheroma of the aorta; mitral valve stenotic. *Spleen:* Enlarged. *Kidneys:* Left atrophied, capsule adherent, markings indistinct, sclerosis above the pyramids; pelves filled with fat. Right kidney in about same condition; both surrounded by a thick layer of fat. *Stomach:* Normal."

The most striking revelation of the autopsy was the complete adhesion of the two surfaces of the pericardium. The death seemed due, then, to syncope, the heart being so fettered that it could not respond to the unusual strain thrown upon it. When beginning the inhalation of ether, the patient seemed very nervous, there was rather more struggling than usual, and a struggle closely preceded the disappearance of the pulse. The heart was in a condition to suffer permanent arrest of its function upon any slight increase of labor, and any occasion for unusual mental or physical excitement would, I think, have been as fatal as the ether. Had much more than ordinary care been exercised to quiet the patient's nervousness, and to restrain his jactitation by moral suasion and the gentle and gradual administration of the ether, I can readily believe that this feeble heart might have successfully emerged from its ordeal.

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# THE
# CORRECTION OF CONGENITAL HYPERMETROPIA.

PORTION OF A LECTURE BEFORE THE OPHTHALMOLOGICAL SECTION OF THE CLASS AT THE UNIVERSITY MEDICAL COLLEGE,

*New York, April 9, 1889.*

BY H. H. SEABROOK, M. D.,

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THE multiplicity of instruments for the diagnosis and measurement of errors of refraction tends to obscure the fact that this work is usually done with a case of test-glasses. A careful study of the best way to determine the refraction by means of the test-case will better repay the student of ophthalmology than to consume his time and energy in an attempt to understand elaborate instruments designed for testing, of which the merits are appreciated only by the inventor.

Congenital hypermetropia is the most common form of refraction with which the oculist has to deal, and is the most difficult to measure, as well as the hardest in which to determine the proper glass to be ordered. You have received practical instruction upon this subject. Let us define and enlarge upon the knowledge thus gained.

The total hypermetropia (H. T.) is divided into manifest hypermetropia (H. M.) and latent hypermetropia (H. L.). If the vision (V.) at twenty feet can not be improved by a glass, the strongest convex lens with which it remains equally good is the measure of H. M. If the V. can be improved, the strongest convex glass with which it is at its best is the measure of H. M. It is evident that H. M. must vary in one patient at different examinations, but this variation could be reduced to a minimum if everything that could interfere with relaxation of the ciliary muscle of the examined eye were carefully eliminated. The difference between H. T. and H. M. is H. L., and this is caused by contraction of the ciliary muscle—the muscle of accommodation. It should be the desire of every ophthalmologist to procure the greatest possible relaxation of accommodation and obtain the largest measure of H. M.

A certain contraction of the ciliary muscle is usually present in the hypermetropic eye of patients under thirty years of age, and may be present after that age, though almost never after the age of forty-five. Relaxation takes place in the higher degrees of hypermetropia in a dark room when the eye is adjusted for distance. These conditions can be met during examination in the rooms used for ophthalmoscopy by causing the patient to look at the black wall opposite him. The H. T. can be measured during the direct examination by means of the convex lenses set in the revolving disc of the ophthalmoscope. After correcting his own refraction, the strongest convex glass with which the examiner can see the epithelial cells at the macula lutea corresponds to the lens which should be worn to correct the hypermetropia of the examined eye *in toto.* Unfortunately, the many chances for error make this system of measurement an approximate one at best.

Paralysis of the ciliary muscle and perfect relaxation of the accommodation may be brought about by disease or certain medicinal agents in the manner previously brought to your notice. You also already know how atropine is used in testing refraction.

Contraction of the ciliary muscle is increased by light shining in the eye, or by any form of excitation of the nervous system, and occurs with convergence of the ocular axes in an associated ratio. Strange as it may appear, the ocular fatigue caused by trying on glasses is apt to increase the contraction, and when the hypermetropic eye has once adjusted itself for a lens, the difficulty of adjustment for a stronger convex or weaker concave glass is increased for the time being.

To procure ciliary relaxation in testing the V. for distance, it is better that the light should come from the side of the patient, at his back, and opposite the test-card. A comparison of results with the light thus arranged with others obtained with the light from the side of the room, in front of the patient, shows greater relaxation of accommodation in the former cases though the illumination is better in the latter, as is shown by better average V.

To eliminate nervous excitement in the patient during an examination requires a calm examiner, who has a good knowledge of human nature. I can offer only one suggestion: when the patient desires to tell you how the cow frightened her little sister into cross-eye, or the tragic sufferings her father underwent from a foreign body upon his cornea, listen without betraying any annoyance, and when she ceases, and the far-off look of contentment which always follows these narrations creeps into her eyes, then test for H. M.

To procure parallelism of the ocular axes, test the eyes together, as well as separately. In the latter case the covered eye sometimes converges and accommodative spasm in both is likely to result from the motion.

To avoid fatigue of the examined eyes, begin with the convex lens which in your opinion most nearly corrects the H. T., as determined by ophthalmoscopic examination, or by a consideration of the vision for distance, age of the patient, and state of accommodation for diamond type combined. If this glass is not accepted, gradually decrease its strength until you find one that is. Do not begin with a weak convex lens, as is usually done. This not only interferes with obtaining a large measure of H. M., but the fact that an eye accepts a convex lens of half a dioptrie (D. 0·50) proves nothing. At twenty feet a lens of about D. 0·16 is required to render the diverging rays of light from an object parallel, so the emmetropic eye, or that with normal refraction, would, in a state of rest, require this glass to absolutely adjust it for such a distance. At fifteen feet the glass required would be almost D. 0·25 in strength. Again, an eye will occasionally accept a stronger convex lens than the refraction requires, or at least read as correctly with it for distance. This acceptance of the too strong lens is due to the fact that it does not increase the convergence of the rays of light sufficiently to disarrange their relation to the retinal perceptive elements, and the fact should be borne in mind when an eye with the accommodation paralyzed by atropine is apparently equally well corrected by two or three lenses of nearly equal strength. In such a case the patient may be appealed to for a decision as to which lens renders the test-letters most distinct. He responds, at times, that one or the other enables him to see the letters "blacker," and this response may determine the selection of the proper lens.

When, in any given case, the H. M. has been determined, and then the ciliary muscle paralyzed by atropine and the H. T. definitely demonstrated, what glass should be ordered? This is an important question, and the answer requires careful consideration of the conditions of hypermetropia in general and the individual case in particular.

Experience has shown that young patients will not, as a rule, be able to use the glass correcting the H. T. with comfort. Correction of only the H. M. usually gives but transitory relief. Consequently (with a very few possible exceptions) the glass ordered should be more than correction of H. M. requires, but less than H. T. Donders's rule was, "Correct the H. M. + one fourth the H. L." While no harm would be done by adherence to this rule, its general application would not give relief to the asthenopia in a certain proportion of cases. Another rule is, "Correct the H. T. in patients over thirty years of age." There should be few, if any, exceptions to this. The correcting glasses are always better borne if they are worn for distance from the time they are ordered at least until such time as the effect of the atropine upon the accommodation ceases. I believe that the strength of the glass to be worn should, to a certain extent, depend upon the strength of the ciliary muscle, as shown by the near point of the range of accommodation. The average emmetropic eye has a near point at two inches and two thirds at ten years of age, receding to six inches at thirty-two years. It is at five inches at the age of twenty-eight, representing a lens of D. 8 focal power. A hypermetrope of D. 2, with the standard amount of accommodation, should have a near point represented by a lens of D. 8 — D. 2 = D. 6, giving a near point of six inches and two thirds, since D. 2 of his power of accommodation are needed to neutralize his refractive error. If such a patient should have D. 10 of accommodative strength, sufficient to neutralize his error of refraction, and have in addition the accommodation of the emmetrope, he should have no accommodative asthenopia or fatigue, and the few cases of this kind that I have had the opportunity to investigate have had none.

It is common for young patients with only D. 1 or D. 1·50 of H. T. to suffer upon using their eyes, and in these cases the ciliary muscle appears to be invariably weak. Let me give you a few instances taken at random. A young man, aged twenty, suffers from ocular fatigue and congestion, with headache, upon using the eyes. Has given up reading at night, and for a long period by day. V. = $\frac{15}{15}$. No H. M. Near point for Jaeger No. 1, seven inches. After atropine, H. T. = D. 1. This was corrected for reading, and all the symptoms disappeared. At this patient's age the near point should be about three inches and a half, if the eye were emmetropic, representing an accommodative strength of nearly D. 12. Instead, there is a strength of nearly D. 7, D. 1 of which is required to correct the hypermetropia. For use at near work the accommodation is D. 6 under the standard.

A boy of eleven years has D. 0·25 H. M. H. T. = D. 1·50. Near point for Jaeger No. 1, nine inches. The accommodation in this case is D. 9·50 below the standard. Another boy, same age, has H. T. = D. 1, all manifest; could not read smaller type than Jaeger No. 2.

The general muscular system in all these cases was bad. The extrinsic muscles of the eye were not abnormal in strength and comparative relations. In the two latter cases the patients were relieved of their annoying asthenopia by constant use of glasses correcting the H. T. Improvement in the strength of the ciliary muscle could probably be accomplished in these cases by an improvement in the general muscular strength and bodily health. Rest for the eyes would undoubtedly be beneficial. If this is impracticable and the eyes must be much used, and asthenopia persists after correction of H. T., it would certainly be justifiable to order a convex glass strong enough to give relief to the eyes.

In order that you may better understand this matter, let me approach it from another standpoint. Experienced ophthalmologists correct hypermetropia by means of a consideration of H. T. and the age of the patient, as a rule; in a patient of twenty-five years of age, let us say, correcting H. T., if less than D. 2 in amount; in the medium grades correcting the H. M. and part of H. L. Thus, in eyes with D. 4 of H. T., ordering D. 2·50 or D. 3. In the higher grades the same principles are followed, but here the vision often becomes more of a consideration than the asthenopia, and renders the choice of the glasses to be ordered somewhat easier.

The point that I desire to make is, that you will do well to consider not only the H. T. and patient's age, but also the condition of the ciliary muscle as shown by the H. M., carefully tested, and the accommodation for reading. Thus will you have a key which will enable you to more rapidly learn the proper glass to order, in any given case, to meet the ocular indications, and best suit the so-called "individuality" of the patient.

The far point for reading is very variable, and from it only general deductions can be drawn. For Jaeger No. 1 it varies, in an eye that has practically no error of refraction or accommodation, from eighteen to thirty inches. The nearer it approaches the near point in hypermetropia, the greater is the spasm of the ciliary muscle that can not be relaxed in reading.

When should the glasses for hypermetropia be worn? This question is easily answered. If given to improve the vision only, the decision may, indeed must, be made in accordance with the wishes of the patient. In that larger number of cases where they are given to relieve asthenopia, and this is accomplished by their use for near work, such limited use is evidently sufficient. If the asthenopia is not relieved by this, the glasses must be worn for distance as well.

Hypermetropia is the cause of certain abnormal conditions of the internal recti muscles. You may have noticed that I have, as far as possible, avoided allusions to the external muscles of the eye and their affections. It is my desire to say as little of them as may be, but as the celebrated Mr. Dick was accustomed to find the head of Charles I constantly obtruding itself into his memorial, so must any teacher of ophthalmology in New York to-day run foul of the external ocular muscles when giving instruction, since this portion of the subject possesses unusual local interest from having been disproportionately thrust into the foreground of the ophthalmological landscape.

That hypermetropia is the most common cause of strabismus convergens is a fact so well known that it is unnecessary to emphasize it. In a very large proportion of cases of uncorrected hypermetropia, with asthenopia, relative weakness, or insufficiency of the internal recti muscles for near work, can be demonstrated. This is combined sometimes with a like condition for distance, at others with insufficiency of the external muscles.

Why do the causes that produce internal squint in some cases result in insufficiency of the internal muscles in others? In the former case, overuse of these muscles causes permanent contraction; in the latter, fatigue is the result from the same cause. The intimate relation between accommodation and convergence is at the bottom of both muscular conditions. The increased accommodation rendered necessary by the hypermetropia causes increased innervation of the internal recti, and the shape of the hypermetropic eye allows of freer motion, but requires it to be more extensive than in the emmetropic or myopic type of eyeball. This muscular fatigue usually passes off after proper correction of the hypermetropia, the time required varying from a few days to several months. In one case that I have seen the asthenopia with headache had existed more than one month, was extremely severe, and had persisted in spite of energetic general treatment. The internal recti could not overcome the weakest prism at a distance of twenty feet, and there was no binocular fixation for near vision. There was apparently spasm of the external recti, as their strength was abnormal. H. T. was D. 1·50, which was corrected. In one day the headache was almost well; at twenty feet the internal muscles could overcome prisms of greater power than the external, the strength of the latter having diminished one half. At reading distance the internal muscles had double the strength of the external. The headache entirely disappeared in a few days, but returned four months later, when it was undoubtedly due to a marked insufficiency of the *external* muscles.

In another case with asthenopia and severe headache that had defied general treatment, the muscles varied for distance at different examinations. At reading distance the internal muscles were at one time equal in strength to the external, at another only two thirds as strong. In this case there was compound hypermetropic astigmatism, the deficiency in the worst meridian being D. 0·75. The near point of accommodation was at eight inches, the age being sixteen years. The refraction was slightly overcorrected as regards the hypermetropic portion. The headache improved gradually, to disappear in about three months, the asthenopia was entirely relieved, and neither have since returned. Nine months after the first examination the muscles were in the proportion, at fifteen feet, of thirty-four to six; at thirteen inches, forty to seven, the larger number representing the internal recti, the smaller the external.

It is perhaps unnecessary to state that no muscular condition of the eye requires treatment unless it produces symptoms, and no refractive condition requires correction if the vision is good and the eyes cause no trouble. It may surprise you to learn that useless, sometimes injurious, operations are done upon the ocular muscles in just such cases as I have described.

Years ago, after a terrible epidemic of muscle-cutting upon the European continent, Donders wrote the following words. They are not yet obsolete, and I advise you to paste them in your hats:

> "I have already asserted that hypermetropia is usually at the bottom of asthenopia. The truth of this assertion has been doubted. I now, however, go a step further and venture to maintain that in the pure form of asthenopia, hypermetropia is scarcely ever wanting."

1032 Lexington Avenue.

# THE USE OF THE BANDAGE IN MITRAL INSUFFICIENCY.

By W. T. O'DONNELL, M. D.,
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The following case is related to illustrate a use of the bandage which, though ancient, may be novel to some of your readers:

On January 18, 1889, I was called to see Mr. M., aged fifty-seven. His condition, briefly stated, was as follows: Mitral insufficiency, dilatation of the right side of the heart, general dropsy, hæmoptysis, with cough, jaundice, and anæmia. Urine scanty, and as if holding blood in solution. Action of the heart frequent, irregular, and very feeble. Great dyspnœa. At first a little relief was obtained in the usual way by hydragogues. Then he was directed to take eight ounces of milk every four hours; tincture of iron, in fifteen-drop doses, three times per diem; and twelve grains of bisulphate of quinine each morning. The scrotum, distended to its utmost, was then tapped on each side with a large-sized aspirator-needle, which was permitted to remain for a time, so that when withdrawn the opening thus made should not be plugged by oozing blood. In this way, by four successive tappings, about seventeen quarts of fluid were withdrawn. As the dropsy disappeared from the upper portion of the body he had severe pleuritic pains, which were relieved by morphine. Finally, the legs being still distended, he was placed upon his back, with shoulders and legs elevated, and kept thus twenty-four hours. A bandage was then applied from feet to body as tightly as possible, yet each ascending turn compressed the limb slightly less than the one preceding it. He was again placed upright, when the scrotum rapidly filled and was tapped for the last time. The scrotum was then compressed by means of adhesive straps, and the bandages were carried to the nipples. His arms were also bandaged.

So soon as the dressing was *in situ* the heart became vastly more regular in its action, the urine more copious and clear, cough and blood-spitting ceased, and he was encouraged to walk, leaning upon the arm of an attendant. From this time, January 30th, the improvement was rapid and continuous, and by the end of February he was able to attend to his business, and has superintended the seeding of a large wheat farm.

The bandages, excepting those for the arms, are still *in statu quo*. An attempt to lay them aside was at once followed by increased heart trouble and incipient dropsy.

The *modus operandi* of the bandage is simplicity itself. If a ligature is applied to the limb of an anæmic person, sufficient to partially obstruct the venous flow, but not compressing the artery, dropsy will ensue in the part below the ligature. If now a bandage is applied from the end of the limb to the ligature, with gradually decreasing compression and yet the constriction of the last turn of the bandage exceeding that of the ligature, the obstruction will be overcome and the dropsy removed. The principle applies though the obstruction be moved toward the heart, or even placed at the heart itself. This factor of dropsy—called by the Greeks φλεβῶν ἀπολήψιας, which pertains to a certain extent even when the dropsy is not of cardiac origin—has long been recognized; but one of our most efficient means of relief has been left, so far as I know, in oblivion. The bandage is indicated with incipient dropsy, and coexisting anæmia should be overcome by all means at command. Direct stimulants to an already exhausted heart are not indicated. Digitalis should be regarded with suspicion, and only used for its tonic or diuretic effect, if indeed it has such properties. In the bandage, however, we have safe, efficient, and rational means of relief for valvular insufficiency, and which will frequently give the patient an additional lease of life, varying in duration according to the extent of the lesions and other concomitant factors.

In prognosis it should be remembered that the reverse force sustained by the mitral valve when intact is opisthobolic when the valve is insufficient, and ultimately is borne in part by the veins and capillaries, and when thus sustained dilatation of the right side of the heart will progress so much the more slowly as the burden is shared by the former. The arterial circulation would go on even if the mitral valve were entirely removed, because its office is assumed successively by the vessels of the lungs, the right side of the heart, the veins, and the capillaries, and is divided among them. Finally, with the bandage we again divide this reverse force, and hence in part the bandage fills the office in the circulation of the mitral valve, and must necessarily give a longer lease of life than *prima facie* might be supposed.

## Correspondence.

### LETTER FROM PARIS.

*The "Doctor of 1889."—The Use of Cocaine and other Coca Preparations.—Tubercular Lesions of the Uterus.—The International Congresses of 1889.*

Paris, *April 29, 1889.*

Professor Brouardel, the eloquent dean of the Paris faculty, holds the chair of legal medicine, and his lectures are always well attended. He opened this year by some pertinent remarks on the "Doctor of 1889." He said that medical science had become revolutionized within the last few years in a way that had no parallel since the beginning of the world. In surgery great changes had been brought about by the microbian doctrine, and indeed this question had altogether changed the rôle of a physician in society. For instance, no matter what locality a man now settled in, besides being the family doctor, he became a public officer, as he had the power of stopping epidemics in a way that had never existed before. Open almost any of the modern novels and one would find that it discussed hysteria, nymphomania, and other diseases; and it was the same in the newspapers. All the questions of legal medicine, public hygiene, and medical matters of all kinds were public, so that the doctor was no longer judged by the families that he might attend, but by the whole world. The doctor of fifty years ago had only a small library of books that he had used as a student, and only added to this his clinical experience that he acquired. There were good doctors then, but their responsibility was limited to their patients, and no one thought of criticising the correctness of the therapeutical measures that they might adopt. To day, however, all was changed; the smallest village received or published several papers where scientific work was talked of and judged with more or less impartiality, and where the sittings of the great academies of medicine were analyzed. This led the modern patient to ask his doctor to prescribe for him the new drugs he read of, such as antipyrine or strophantine. The doctor might not know more than his patient about the new medicine, which he might not have tried yet; and even if he had an opinion about it, the editor of his patient's favorite journal might have an opposite one. So that he was obliged to prescribe what in reality was ordered by some one else, and his authority was so much lessened in modern times. Certainly the old doctor was treated with great esteem, confidence, and affection, and he was almost a member of the family. To-day, however, the old family doctor was a myth; but, on the other hand, the scientific man of medicine and hygiene had become almost one of the wheels of state, or at least of city power, and he was consulted in regard to the public health, so that in these days of progress his position was perhaps, after all, better than ever. We lived in a time when the public were well educated and wished to know the why and wherefore of everything, so that doctors must expect to have their diagnosis, prognosis, and treatment discussed by their patients, and even disputed by them. If one gave a certificate in lunacy he might expect the papers to say that he had been paid to do so; but, on the other hand, he might have the satisfaction of saving the whole city from an epidemic by intelligent prophylactic measures. And again he could sometimes expose the errors of a lawyer who pleaded for the condemnation of a man when a wiser and more correct view of the matter, in a medical sense, would show that there was no guilt. Other occasions would present themselves when a doctor could do good in many ways, and show that, after all, his critics had only a superficial knowledge, and his more exact science would destroy their arguments. This would prove the superiority of the modern physician, but it could not be done except by hard work and hard study; then the general public could not say that they knew as much as the doctors.

It seems rather curious that no one has called attention to the apparent contradiction in the use of cocaine and other coca preparations. It is almost certain that the good effects on the nervous system, respiratory and digestive organs, are not the result of tonic stimulation, but rather that of anæsthesia or paralysis. A more careful study of the effects of coca is needed, as, owing to its general introduction to the public, it is being used in all sorts of complaints which can not be benefited by it, while others are neglected. M. Sandras showed the members of the *Société de médecine pratique* at its last meeting the alteration produced in the voice by the use of cocaine and coca used by atomization by inhalations, or by drinking it. He had treated actors who were suffering from aphonia and chronic laryngitis, and had thought it might be that the loss of voice was produced by the use of coca wine and cocaine, and on making a series of experiments he had found that this was true. Coca wine is not a tensor of the vocal cords; it is rather a relaxer, as the cocaine acts by paralyzing and deadening the tensor muscles of the vocal cords. This is very easy to show by experiment, and M. Sandras, while speaking to the society, filled a glass with coca wine and drank it slowly, and then attempted to continue his speech, when it was noticed by every one present that his voice had greatly altered in intensity and acuteness. The vibrations were lost, and the orator could hardly be heard. This aphonia is almost painless, but it is annoying to observe it. It has been found that after a few inhalations of chloroform the voice comes back to its normal timbre, and if, further, inhalations of tar and tincture of benzoin are used, the voice increases and is doubled in extent. There are certainly some studies yet to be made of the correct use of coca wine and cocaine preparations.

Chronic tubercular endometritis, according to a study of it just made by Dr. Jouin, is a much more common disease than the secondary tubercular degenerations of the rest of the female genital system. It also has symptoms that are peculiar to itself and important to recognize, as a failure to do so leads to an incomplete method of treatment. It is easy to understand that the uterus is disposed to such troubles, owing to the fact that its mucous membrane is soft, spongy, and rich in tube-glands, thus making it essentially favorable to the development of Koch's bacilli, while on the other hand the bladder, urethra, and vagina have a thick mucous membrane covered with pavement epithelium.

Dr. Jouin presents the histories of nine patients whose cases he divides into four classes. The first class contains two cases of tubercular endometritis which followed coition with a man who was afflicted with genital tuberculosis. The second set consists of two more patients, whose husbands had phthisis but no apparent signs of local trouble of the genitals. The third class consists of three cases, where no cause could be found for the disease, but in two of them M. Jouin saw symptoms of genital tuberculosis arise in the husbands of the women affected with tubercular endometritis, while the third husband became affected with pulmonary phthisis after a few years. The last two cases forming the fourth class were cases in which no cause could be traced, and the disease did not seem to have been conveyed to the husbands. The diagnosis was confirmed in every case by microscopical examination and also by peritoneal inoculations of guinea-pigs. The predisposing causes of this affection are those of tuberculosis in general, and local causes are lesions of the os uteri, inflammation of the region, the use of linen that may have been soiled by the sputum of tubercular patients, also badly cleaned instruments, but, above all, it must now be admitted that sexual intercourse has considerable importance in the ætiology of this affection.

It is possible that tubercular endometritis may be a cause of the gleet seen in men who have phthisical wives. The symptoms are leucorrhœa, pain in the lower part of the abdomen, and constipation; sterility is the rule. By combined palpation the uterus will be found to be doubled in size and volume. The speculum will show an os that is red, sometimes ulcerated and with an inflamed orifice, allowing of the passage of sanious fluid which is more or less abundant. The hysterometer or, what is better, a small bougie held with a pair of pinchers, will show that the cavity is larger than it should be; finally, a microscopical examination of a detached portion of the mucous membrane lining the organ will give the characters of tuberculosis. It may also be seen that the patient has the usual general signs of tuberculosis, such as wasting, fever, cold night-sweats, etc. And when the disease is not treated it will constantly extend to the lungs, and it was so found in several of M. Jouin's cases. When it first arises it is not a dangerous malady, and, if proper action is taken, may be prevented from extending to the entire organism, but of course, if it has already gone to the lungs, the prognosis is serious. As to treatment, M. Jouin thinks that it is best to give creasote, which seems to be quite active against the genital types of tuberculosis. Iodoform pencils should be introduced, after dilatation of the os with laminaria tents (which have first been steeped in iodoformed ether for twelve hours). To this may be added all the general medical aids used in tubercular complaints, and the women should be instructed to abstain from intercourse until they are cured.

Several international meetings will be held in Paris during the Exposition. The following will interest the medical profession: Congress of Alcoholism, Public Assistance and Hospitals, Chemistry, Therapeutics, Hygiene and Demography, Dermatology and Syphilis, Mental Medicine, Physiological Psychology (Charcot's), Criminal Anthropology, Dentistry (September 1st to 7th), Otology and Laryngology (September 16th to 21st), Hydrology and Climatology (October 3d to 10th). Those of which the dates are not here given will take place from the 1st to the 10th of August.

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## ELECTRICITY IN GYNÆCOLOGY.

At the recent meeting of the Alabama Medical Association Dr. W. E. B. Davis, of Birmingham, read an interesting paper on this subject. He suggested that excessive enthusiasm had led to frequent failure in the use of this remedy, but thought that there could be no question as to its importance as a therapeutic agent in gynæcological practice when such men as Apostoli, the Keiths, Engelmann, and other competent observers who had had experience in its application had reported most satisfactory results. The apparatus employed by Dr. Davis consisted of a Gaiffe faradaic machine, Apostoli's bipolar uterine and vaginal excitor, a fifty-cell galvanic battery made by Woodruff & Harris, of Birmingham, under his supervision, the cells of which were of the Law telephone pattern, a portable Waite & Bartlett galvanic battery, Gaiffe's galvanometer, Massey's current-controller, Apostoli's and Martin's abdominal electrodes, platinum sounds, steel needles, and metal electrodes to be used with absorbent cotton. He advised the use of the current of the Edison circuit, direct from the dynamo, when it could be had, so as to avoid the annoyances and inconveniences of a battery. Portable batteries had proved very disappointing in the administration of high intensities, and his work had therefore been almost confined to office practice. Great stress was laid on the importance of the application of the faradaic current in subinvolution of the uterus. It was the author's practice to give ergot to every woman who had had an abortion or been confined at full term, and, should there be incomplete involution at the expiration of six weeks, to begin at once with the use of the faradaic current, using Apostoli's bipolar intra-uterine excitor, and repeat the application every second or third day until the organ had returned to its normal size, which occurrence, he said, could "always be counted on with mathematical certainty." He did not, however, recommend the use of the current immediately after every abortion or delivery, as practiced by Apostoli, since the expense of this treatment could not or would not be incurred by most patients, unless it was certain that the uterus would not otherwise return to its proper size. For this reason ergot was prescribed in every case, for it acted very much like faradization on the muscular fiber of the uterus, although it was not by any means so prompt, energetic, and reliable. All patients were examined at the expiration of six weeks, to ascertain whether involution had been complete.

Cases were reported to show the value of the faradaic current in subinvolution of the uterus, and to illustrate its efficacy in displacements due to the enlarged, hyperæmic condition of the uterus after parturition. The "current of tension"—the current from the long, fine wire—had proved a valuable agent for the relief of pain, and cases showing permanent relief were cited. The currents of quantity and tension had been used with very satisfactory results, as indicated by Apostoli, but the author had begun to use the current of tension not only for pain, but to stimulate relaxed and enfeebled muscle fiber. The current of tension, he said, was borne better by the patient, but he had been unable to recognize the superior results of the current of quantity on muscle over the current of tension. In displacements of the uterus, he supported the organ with wool tampons and did not object to any form of pessary, properly fitted, in connection with the treatment by electricity. He believed efficient support of the organ, combined with the proper application of electricity, to be the most rational treatment for this condition.

When the uterus was enlarged, not from subinvolution, but from hyperplasia, the continuous current was indicated. All cases of chronic endometritis, according to Apostoli, were amenable to galvanism—the positive electrode being inserted when there was much leucorrhœa or profuse menstruation, and the negative in other cases. A current of from seventy-five to one hundred and fifty milliampères was used twice a week for five minutes at a time. The sound was usually introduced through a bivalve speculum, and the handle allowed to rest on a large wad of absorbent cotton. Dr. Davis would not say that electricity would do away entirely with such surgical procedures as shortening the round ligaments, attaching the cornua of the organ to the abdominal wall, or narrowing the vagina by the many methods at present in vogue, but he insisted that many patients might be relieved by this method of treatment who would otherwise be condemned to the knife. Chronic inflammatory exudations in the pelvis, he said, should be punctured from once to twice a week, and a current of from a hundred to a hundred and fifty milliampères used. The faradaic current was an admirable remedy for the so-called chronic pelvic inflammations—thickening of one or both broad ligaments. Of course, the lacerated cervix that, he thought, usually caused this condition should be repaired before the administration of electricity was begun. The local application of the faradaic current was capable of overcoming many cases of amenorrhœa due to atrophy of the uterus. On the other hand, in menorrhagia, when it was due to relaxation of muscle or to engorgement, when the patient menstruated from eight to nine days, after a few applications the menstrual periods would last only from four to five days. The galvanic current with the positive electrode applied internally was the remedy indicated for hæmorrhage due to disease of the endometrium, and it was the current usually indicated for hæmorrhage. Women often become pregnant soon after being treated with electricity, and it was unquestionably a valuable remedy for sterility due to nervous causes, as had been ably described by Dr. Campbell. In neuralgic dysmenorrhœa and dysmenorrhœa in women of an hysterical temperament—whom the slightest excitement or worry would cause to suffer greatly, but in whose cases there was no apparent pathological lesion—

he had succeeded, as with no other remedy, by the application of the faradaic current of tension or a mild galvanic current, using the positive electrode internally. The negative electrode should be so used when the pain was due to mechanical causes in the cervical canal and when there were inflammatory deposits around the ovaries.

Dr. Davis reported a case in which he had removed the ovaries and Falloppian tubes when they were surrounded by inflammatory deposits, and regretted that he had not used galvanism, as the operation had not benefited the patient. He did not think that galvanism could take the place of removal of the ovaries and tubes, but said that each had its special field; should electricity fail, no harm would have been done, and the operation could still be resorted to. While he had had no experience with electricity in extra-uterine pregnancy, from a study of the actions of the agent and the results in the hands of others, he thought there could be no doubt that it should be used in the early stages of this condition; should there have been a mistake in diagnosis, there could be no harm done, as this was the remedy for the pathological processes most likely to be mistaken for extra-uterine gestation. When the pregnancy had lasted for more than three months, and when it could be diagnosticated positively, it was a question in his mind whether laparotomy should not be resorted to at once. He said that the subject which had interested the profession most in connection with the use of electricity was the treatment of fibroid tumors, and that the results of the treatment in the hands of Apostoli, the Keiths, Engelmann, Lapthorn Smith, and others had demonstrated that this was the treatment for fibroid tumors which offered, as Engelmann had said, probabilities of healthy retrograde metamorphosis. He had followed Apostoli's instructions in this class of neoplasms, and believed that the majority of cases could be cured, so far as symptoms were concerned. Certainly Apostoli's treatment should be tried before hysterectomy was resorted to.

## THE STUDY OF CELL CHARACTERISTICS.

Anatomical results have a reputation for superior force and credibility. Within the scope of gross anatomy this reputation is well grounded. The work of minute anatomy or histology can scarcely as yet merit equal praise, though the field is clearing, and many existing contradictions are rather apparent than real. Gudden reached this conclusion: "First of all, let us have anatomy, or, if physiology must come first, never without anatomical control." In other words, the careful consideration of a machine will demonstrate its use; and in experiments with uses their scope is defined and limited by the structure of the machine. In the study of the form and functions of the nervous system there is ample reason for accepting anatomical data—though far from perfect—as the norm, and for measuring physiological results by them. The more accurate the anatomical standard, the more certain all progress in neurology and psychology. The relation of the two last-named branches of medical science is discussed, together with a review of recent observations along the lines above specified, by Henry Donaldson in the "American Journal of Psychology" for February, 1888. Up to the present time, as the author states, it has been largely the topographical anatomy of the central nervous system that has been studied. The units are groups of cells and bundles of fibers, and the question to be answered is, as a rule, how these are united. The methods employed to determine the correlation of function with form are the association of the failure of some function with the failure of some part, and *vice versa.* Sometimes there is loss of nervous substance not apparently associated with any or with a corresponding functional disturbance. Anomalous as these cases now appear, without doubt they will become clear under proper anatomical investigation. A much finer analysis of function than is now in use must ultimately prevail. After localization, still another question arises. Given a group of cells with a definite function, what is the fundamental difference between this group and others with a different function? This leads to a consideration of the individual characteristics of the cell itself. The first step here is the study of the form and chemistry of the cell, its minute mechanism and its composition or proper constitution. Will it ever be possible to infer function from the morphological characteristics of special cells? Thus far, attempts to infer the grade of intelligence from the general form of the brain have not been very successful. Yet this would appear one of the least difficult questions that wait for an answer. With failures in correlation in full view, is it worth while to pursue neurology as an aid to psychology? Yes, and for the following reasons: Neurology is the common factor of most of the approaches to psychology. It is the point of departure in various methods of investigation—the comparative, the developmental, the morbid, and the experimental. Further anatomical knowledge promises to give far deeper insight into the workings of the central nervous system. Eventually it may become the habit of the scientific mind to associate definite cell changes with the performance of certain functions. Accurate neural anatomy must go hand in hand with accurate psychological analysis.

# *MINOR PARAGRAPHS.*

## THE BULLETIN OF THE NORTH CAROLINA BOARD OF HEALTH.

The State Board of Health of North Carolina issues monthly a report of the prevailing diseases of the principal cities and boroughs and of the condition of the jails. It gives also a considerable space to articles, selected or original, on the more recent advances of sanitary science. The "Bulletin," as it is styled, for April has an original note on excreta-disposal in rural communities, which holds the country practitioner to a close responsibility for the occurrence of soil-damage by excrement in the locality in which he practices. The author, Dr. G. S. Franklin, addresses his colleagues in strong language when he charges them with a want of care in the disposal of filth. He says: "I venture to say there is not a physician in North Carolina who is not chargeable with gross negligence in permitting this state of things to exist on his own premises, and with ignoring a great public duty when he does not call the attention of neighbors and patrons to the great danger liable to be thus incurred, even by the present generation, but more especially by our posterity. But the time will surely come, if present methods continue, when our sanitary sins will find us out, when typhoid fever and dysentery and diphtheria will become more and more common and more deadly." He adverts also to the possible incursion of cholera in the near future, and urges the medical fraternity to advocate the passage of laws and ordinances which will prevent the construction of privies that are not cemented, and which will make provision for soil-removal. The non-water-tight yard privy is a danger and an abomination which one need not journey to North Carolina to find. There are communities not very far from New York where no restrictions exist in regard to these structures, on the sites of which it will not be long before dwellings will be put up. Any of our older communities in which a "boom" in real estate and in building takes place will bear close watching in regard to the filth-pollution of the house-plot.

### CHLORIDE OF METHYLENE AS AN ANÆSTHETIC.

From the Paris letter to the "Lancet" for May 4th we learn that Professor Regnauld has given to the French Academy of Medicine his views on the use of chloride of methylene as an anæsthetic. The drug that has ordinarily been used under that name he holds to be a mixture of four volumes of chloroform and one volume of ethyl ether. The genuine chloride of methylene, as obtained by M. Regnauld, also has anæsthetic properties, but, when used upon the inferior animals, induces a variety of nervous phenomena, such as convulsions, contractures, and seizures suggestive of chorea and epilepsy, so that he does not recommend that it should be used upon man. The ordinary methylene mixture, above referred to, he recommends for anæsthetic use as being safer and less expensive than chloroform. It is also a more stable preparation than chloroform, being less subject to alteration under the action of light and air.

### THE BARTHOLDI CRÈCHE.

The War Department has done a most commendable act of charity in permitting the New York Crèche to erect a cottage and tent on Liberty Island. Very few persons who have not visited the statue of Liberty will appreciate the fact that eight or more beautiful acres are unoccupied and eminently applicable to some summer charity. The crèche will probably open on or before July 1st, and will be in charge of one or more members of the staff of the New York Infirmary for Women and Children. Now let some clever artist depict the God of War smoothing his horrid front and making himself presentable to the babes and their attendants, more or less timid, as they disembark upon his territory. Or let a design be drawn, showing old Mars seated and in the act of rocking a baby in the hollow of his shield, as in a cradle. But, in all soberness, this is a graceful and praiseworthy concession on the part of the authorities, and we believe that it will be worthily employed.

### THE MEDICAL PROFESSION AND THE LAW IN CALIFORNIA.

As individuals, the people of California are as just and generous in their treatment of medical men as could be desired. In their corporate capacity, however, they have tolerated legislation that sometimes works oppressively on members of our profession. We lately alluded to an example, that of a member of the State Medical Society who could not attend its annual meeting, because he was in jail for refusing to give his time and his medical knowledge in the service of the State without compensation. We regret to learn now that Dr. Walter Lindley, of Los Angeles, one of the editors of the "Southern California Practitioner" and the newly elected president of the State society, finds himself sued for damages for alleged malpractice, on the ground that his assistant, not he himself, dislocated a patient's shoulder while moving her in bed. "The victories in these cases are barren," says the "Practitioner," "and it leads the physician to believe there are only two avenues of safety; one, the placing of whatever property he may have in his wife's name; the other, entering a different vocation." How long will the people of California willingly see their medical men thus needlessly worried and humiliated?

### ADDISON'S DISEASE.

Reference is made in the "Province médicale" for March 2d to an autopsy performed by M. Babès and M. Kalindero in a typical case of Addison's disease. There was general pigmentation, particularly marked about the abdomen, breasts, knees, etc., together with tuberculization of the lungs, the intestines, and the suprarenal capsules. Microscopic examination revealed chronic spinal sclerosis limited to the posterior horns. Neuritis existed about the posterior roots of the spinal nerves, very marked at the level of the annular constrictions and characterized by a distension and sometimes absence of the axis-cylinder, together with an increase of cells. The greatest number of these lesions was found in the lower portion of the cord.

### BENDING OF THE CERVIX FEMORIS DURING ADOLESCENCE.

Herr Ernst Müller, of Tübingen, has published in the "Beiträge zur klinische Chirurgie" an account of four cases of an affection of the hip in adolescents that turned out to be characterized chiefly by a bending of the neck of the femur on the shaft, so as to lessen the angle between the two. In one case resection was performed, and the hip joint was found perfectly healthy, but an interesting specimen was secured—one that showed decided softening of the bone, a condition that the author attributes to rickets. The symptoms consisted of slight pain in the hip, a limping gait, and some impairment of the power of rotation and abduction, together with an apparent shortening of the limb. Herr Garrè, who gives a summary of the article in the "Centralblatt für Chirurgie," thinks that this is a new disease.

### A NEW ANNUAL OF OBSTETRICS AND GYNÆCOLOGY.

We have received the first volume of the "Jahresbericht über die Fortschritte auf dem Gebiete der Geburtshilfe und Gynäkologie," edited by Professor Richard Frommel, of Erlangen, with the collaboration of Dr. Ahlfeld, of Marburg, Dr. Bumm, of Würzburg, Dr. Frommel, of Erlangen, Dr. Hofmeier, of Würzburg, Dr. Loehlein, of Giessen, Dr. Sänger, of Leipsic, Dr. Schwarz, of Halle, Dr. Stumpf, of Munich, Dr. Veit, of Berlin, and Dr. Wyder, of Zürich. This volume is a digest of the selected obstetrical and gynæcological literature of the year 1887, consisting of 555 octavo pages. It is published by the well-known Wiesbaden house of J. F. Bergmann.

### THE NEW YORK PHYSICIANS' MUTUAL AID ASSOCIATION.

It has been gratifying to note the progress made by this beneficent society from time to time. It is announced now that the membership has been largely increased of late, and that consequently, at their April meeting, the trustees voted that the sum paid to beneficiaries should be raised to five hundred and fifty dollars. It is desirable, of course, that a good rate of increase should be kept up, and we would again urge members of the profession in the State of New York to avail themselves of membership. Applications for admission should be sent to the secretary, Dr. N. G. McMaster, No. 322 East Fifteenth Street.

### THE RIGHT TO TAKE FEES FROM HOSPITAL PATIENTS.

Some wonder has been expressed that Dr. Henry J. Bigelow, of Boston, should have published such an elaborate argument against the expediency of allowing hospital medical officers to receive fees from the patients as is to be found under his name in the "Boston Medical and Surgical Journal" for April 18th. Under many circumstances it is doubtless a hardship that such a practice is not generally allowed, but we must admit that in the main Dr. Bigelow's logic is unassailable, and there is one consideration mentioned by him that should make it palatable for hospital physicians and surgeons—namely, that the absence of a right to take fees softens the envy (that might easily be aggravated into hostility) felt toward them by many members of the profession who, although very well fitted for hospital positions, can not succeed in obtaining them. The truth seems to us to be that only in instances so rare as to be practically not worth talking about should persons able to pay fees be admitted into a hospital.

### SPECULATIONS CONCERNING A CONTORTIONIST.

At a recent meeting of the Royal Imperial Society of Physicians of Vienna, Herr Billroth showed a contortionist known as the human snake (*Schlangenmensch*), who was chiefly remarkable for the extraordinary mobility of his spinal column. According to the account given in the "Deutsche Medizinal-Zeitung," Professor Billroth conjectured that this might be due to great elasticity of the anterior longitudinal ligament, a high degree of compressibility of the vertebræ, and perhaps unusual shortness of their spinous processes.

### THE DOUBLE PUBLICATION OF DERMATOLOGICAL ARTICLES.

The "Monatshefte für praktische Dermatologie" announces that an arrangement has been made with the "British Journal of Dermatology" by virtue of which all original articles contributed to either journal will be published also in the other, except in case of objection on the author's part.

### ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending May 28, 1889:

| DISEASES. | Week ending May 21. | | Week ending May 28. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 11 | 2 | 15 | 1 |
| Scarlet fever | 218 | 27 | 159 | 27 |
| Cerebro-spinal meningitis | 2 | 2 | 0 | 0 |
| Measles | 123 | 8 | 129 | 7 |
| Diphtheria | 150 | 46 | 165 | 61 |

**The American Association of Genito-urinary Surgeons.**—We learn that the recent annual meeting, at Newport, R. I., under the presidency of Dr. Robert W. Taylor, of New York, was very well attended and in every way most successful. We shall shortly publish a report of the proceedings. Officers for the ensuing year were elected as follows: President, Dr. John P. Bryson, of St. Louis; vice president, Dr. Francis B. Greenough, of Boston; secretary, Dr. A. T. Cabot, of Boston; members of the council, Dr. Robert W. Taylor and Dr. Edward L. Keyes, of New York, to serve in conjunction with the officers previously mentioned. It was voted to hold the next meeting at Cresson, Pa., early in June, 1890.

**Changes of Address.**—Dr. Frank W. Olds, to No. 44 West Seventy-first Street; Dr. G. A. Spalding, to No. 248 Lenox Avenue.

**The Medical Microscopical Society of Brooklyn.**—At the next meeting, to be held at the Hoagland Laboratory, on Wednesday evening, the 5th inst., Dr. Lennox will give a "Demonstration of the Earlier Stages of Ocular Development," and Dr. Abbott will read a paper on the "Structure and Caries of Dentine."

**The Alumni Association of the Long Island College Hospital.**—It is announced that Dr. Charles N. Dixon Jones has resigned from the office of treasurer.

**A Medico-legal Congress.**—As we have already mentioned, an international congress of medical jurisprudence, under the auspices of the New York Medico-legal Society, has been called for June 4th–8th. It is announced that Mayor Grant, Mr. Chauncey M. Depew, ex-Judge Noah Davis, Mr. J. R. Fellows, and Mr. J. S. Wise will participate in the opening exercises. The subjects arranged for the first day will be chemistry, toxicology, and electricity; those for the second day, alcoholism, suicide, and insanity and responsibility; those for the third day, psychology and psychiatry, with an excursion to the public asylums for the insane, by invitation of the Commissioners of Charities and Correction; and those for the fourth day, expert testimony and postponed subjects. The congress is to close with a banquet at the Marlborough. The general meetings will be held in Steinway Hall.

**The Suspension Apparatus.**—We are glad to learn that the form of apparatus in use at Dr. William A. Hammond's sanitarium, in Washington, meets the requirement that we lately suggested, namely, that the patient should not be able to suspend himself. Our informant, Dr. E. L. Tompkins, of the sanitarium, adds: "Heretofore, moreover, each patient has suffered from momentary vertigo just as he was let down; since the spring balance has been put in, no one has complained of the vertigo at all."

**The Kings County Medical Association.**—The next meeting will be held on June 4th, at the Hoagland Laboratory, Brooklyn. The announced subject is "The Presentation of Interesting Cases or Patients," continued from the May session, and introduced by surgical notes by Dr. Rushmore, Dr. Benton, and Dr. Fox.

**St. Mary's Hospital, Brooklyn.**—The friends of this hospital propose a novel expedient for the benefit of its treasury, in the way of a tennis tournament to take place on June 5th and 6th, on the grounds of the hospital. Prizes will be offered to the competitors, and they will be charged an entrance fee.

**McGill University.**—The "Montreal Medical Journal" for May announces that Dr. Robert Craik, emeritus professor of chemistry, has been appointed dean of the faculty of the medical department, to succeed the late Dr. Robert Palmer Howard. Dr. Craik's connection with the college dates from 1856. He officiated as dean at the last commencement, held April 1st.

**The Kentucky State Medical Society.**—The thirty-fourth annual convention of this society was held at Richmond on May

8th, 9th, and 10th, Dr. L. S. McMurtry presiding. The following officers were elected for the ensuing year: President, Dr. J. A. Ochterlony, of Louisville; vice-presidents, Dr. William Jennings and Dr. R. L. Willis; secretary, Dr. Steele Bailey, of Stanford; treasurer, Dr. James B. Kinnaird, of Lancaster. The new medical practice law was again indorsed by the society, and measures were adopted giving active support to the State Board of Health in the enforcement of the law, which went into operation in April.

**The New York Post-graduate Medical School and Hospital.**—We learn that Dr. Robert W. Taylor has been appointed professor of diseases of the skin.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 12 to May 25, 1889:*

By direction of the Acting Secretary of War, a board of medical officers, to consist of Heger, Anthony, Lieutenant-Colonel and Surgeon, Ainsworth, F. C., Captain and Assistant Surgeon, and Skinner, John O., Captain and Assistant Surgeon, will assemble at the U. S. Military Academy, West Point, N. Y., on June 1, 1889, to examine into the physical qualification of candidates for admission and members of the graduating class. Par. 9, S. O. 108, A. G. O., May 10, 1889.

By direction of the Acting Secretary of War, the following-named officers are detailed to represent the Medical Department of the Army at the annual meeting of the American Medical Association, to be held at Newport, R. I., on the 25th of June, 1889: Horton, Samuel M., Major and Surgeon, Billings, John S., Major and Surgeon, and Smart, Charles, Major and Surgeon. Par. 15, S. O. 110, A. G. O., May 13, 1889.

Davis, William B., Captain and Assistant Surgeon. The ordinary leave of absence granted in Special Orders No. 232, October 3, 1888, from this office, is, by direction of the Acting Secretary of War, extended six months on surgeon's certificate of disability. Par. 20, S. O. 108, A. G. O., May 10, 1889.

Ebert, R. G., Captain and Assistant Surgeon, and Moseley, E. B., Captain and Assistant Surgeon, are, by direction of the Acting Secretary of War, granted leave of absence for six months on surgeon's certificate of disability. Pars. 5 and 6, S. O. 109, A. G. O., May 11, 1889.

Tesson, Louis S., Captain and Assistant Surgeon, is relieved from duty at Watervliet Arsenal, N. Y., by direction of the Acting Secretary of War, and ordered to Fort Sidney, Nebraska. Par. 9, S. O. 109, A. G. O., May 11, 1889.

Gorgas, William C., Captain and Assistant Surgeon, will accompany the command from Fort Barrancas, Fla., and proceed with Battery H, Second Artillery, to Fort Adams, R. I., and to return to his proper station on completion of this duty. Par. 5, S. O. 108, Headquarters Division of the Atlantic, Governor's Island, New York city, May 13, 1889.

Gorgas, William C., Captain and Assistant Surgeon. Ordered to proceed at once and to report to the commanding general, Department of the Missouri, for temporary duty in the field.

Gorgas, William C., Captain and Assistant Surgeon, now on duty at Fort Barrancas, Fla., will report in person to the commanding general, Department of the Missouri, for temporary duty with troops in the field. Par. 1, S. O. 112, A. G. O., Washington, May 15, 1889.

Kean, Jefferson R., First Lieutenant and Assistant Surgeon, Fort Robinson, Neb., is hereby granted leave of absence for one month, to take effect between the 1st and the 15th of June, 1889, with permission to apply at Headquarters Division of the Missouri, for an extension of fifteen days. Par. 2, S. O. 48, Headquarters Department of the Platte, May 13, 1889.

Forwood, William H., Major and Surgeon. By direction of the Acting Secretary of War, the leave of absence on surgeon's certificate of disability, granted in S. O. No. 35, April 8, 1889, Department of Dakota, is extended one month on surgeon's certificate of disability. Par. 13, S. O. 118, A. G. O., Washington, May 22, 1889.

Middleton, Passmore, Major and Surgeon, will, as soon as practicable after his arrival at Fort Trumbull, Conn., proceed to Fort Warren, Mass., and report for temporary duty until the return of the post surgeon from detached service with batteries of the Fourth Artillery ordered to Atlanta, Ga. He will then return to his proper station (St. Francis Barracks, Fla.). Par. 2, S. O. 113, Headquarters Division of the Atlantic, Governor's Island, New York city, May 18, 1889.

Appel, Aaron H., Captain and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. No. 38, April 16, 1889, Division of the Missouri, is extended twenty days. Par. 2, S. O. 114, A. G. O., Washington, May 17, 1889.

Stephenson, William, Captain and Assistant Surgeon. By direction of the Secretary of War, leave of absence for four months, with permission to go beyond sea, is granted. Par. 15, S. O. 114, A. G. O., Washington, May 17, 1889.

Rafferty, Ogden, First Lieutenant and Assistant Surgeon, is granted leave of absence for one month. Par. 3, S. O. 29, Headquarters Department of Texas, San Antonio, Texas, May 13, 1889.

McElderry, Henry, Major and Surgeon, is granted leave of absence for one month, to take effect upon completion of his duties as a member of the Army Medical Examining Board in New York city. Par. 4, S. O. 117, Headquarters Division of the Atlantic, Governor's Island, New York city, May 23, 1889.

Patzki, J. H., Major and Surgeon, is granted leave of absence for twenty-one days. Par. 1, S. O. 44, Headquarters Department of Arizona, Los Angeles, Cal., May 18, 1889.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the week ending May 25, 1889:*

Heneberger, L. G., Passed Assistant Surgeon. Detached from the Thetis and ordered to the Iroquois.

Hesler, F. A., Assistant Surgeon. Promoted to be Passed Assistant Surgeon.

**Marine-Hospital Service.**—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending May 25, 1889:*

Hutton, W. H. H., Surgeon. To proceed to New Orleans, La., and inspect unserviceable property. May 25, 1889.

Purviance, George, Surgeon. Detailed as chairman, Board of Examiners. May 22, 1889.

Austin, H. W., Surgeon. Detailed as member, Board of Examiners. May 22, 1889.

Godfrey, John, Surgeon. Detailed as recorder, Board of Examiners. May 22, 1889.

Guitéras, John, Passed Assistant Surgeon. Resignation accepted, by direction of the President, as tendered, to take effect April 30, 1889. May 11, 1889.

Armstrong, S. T., Passed Assistant Surgeon. Granted leave of absence for thirty days. May 11, 1889.

**Society Meetings for the Coming Week:**

Monday, *June 3d:* Medico-chirugical Society of German Physicians; Morrisania Medical Society (private); Brooklyn Anatomical and Surgical Society (private); Utica Medical Library Association; Boston Society for Medical Observation; St. Albans, Vt., Medical Association; Providence, R. I., Medical Association; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *June 4th:* New Jersey State Medical Society (Spring Lake); Pennsylvania State Medical Society (Pittsburgh); New York Neurological Society; Eleventh District Branch, New York State Medical Association (Brooklyn); Elmira Academy of Medicine; Buffalo Medical and Surgical Association; Ogdensburgh Medical Association; Medical Societies of the Counties of Columbia (semi-annual—Chatham), Franklin (semi-annual), Herkimer (annual—Herkimer), Niagara (annual—Lockport), Orange (annual—Goshen), Saratoga (annual), Schoharie (annual), Ulster (annual—Kingston), and Yates (annual), N. Y.; Hudson, N. J. (Jersey City), and Warren (annual), N. J., County Medical Societies; Androscoggin, Me., County Medical Association (Lewiston); Baltimore Academy of Medicine.

Wednesday, *June 5th:* Society of the Alumni of Bellevue Hospital; Harlem Medical Association of the City of New York; Medical Microscopical Society of Brooklyn; Medical Societies of the Counties of Cattaraugus (annual) and Richmond (Stapleton), N. Y.; Penobscot, Me., County Medical Society (Bangor); Medical Society of Orleans County (annual), Vt.; Philadelphia County Medical Society; Bridgeport, Conn., Medical Association.

Thursday, *June 6th:* New York Academy of Medicine; Society of Physicians of the Village of Canandaigua; Brooklyn Surgical Society; Boston Medico-psychological Association; Obstetrical Society of Philadelphia; United States Naval Medical Society (Washington).

Friday, *June 7th:* Baltimore Clinical Society.

Saturday, *June 8th:* Clinical Society of the New York Post-graduate Medical School and Hospital; Manhattan Medical and Surgical Society (private); Miller's River, Mass., Medical Society.

## Proceedings of Societies.

### NEW YORK ACADEMY OF MEDICINE.

SECTION IN OBSTETRICS AND GYNÆCOLOGY.

*Meeting of March 28, 1889.*

Dr. J. E. Janvrin in the Chair.

**An Operation for an Intestinal Fistula after Laparotomy.**—Dr. A. P. Dudley gave an account of an operation which he had undertaken for the cure of a persistent abdominal sinus in a woman who had some time previously been operated on by laparotomy for the removal of the uterine appendages. To his surprise, when the abdomen had been laid open, he had found the ovaries and tubes in a state of disease, and also that the sinus communicated with the ileum. The tract of the sinus and much surrounding exudation which glued the parts together were removed. The perforation into the bowel was closed, one horn of the uterus cut away to release it from adhesions binding it to the adjacent bowel, and the fan-shaped urachus brought down and firmly sewed to the denuded tissues in the tract of the sinus and wherever peritonæum had been removed. He moved the bowels on the second day with a Seidlitz powder. The patient had made a good recovery.

**Cervical Myxadenoma.**—Dr. P. F. Mundé presented a large specimen of a growth of this sort. Sarcomatous degeneration had begun in the deeper parts. It was the ninth case on record. The growth had caused a sanious, watery discharge from the vagina, and intense anæmia. The gelatinous mass shown had been removed in two sections with a wire écraseur. As in all previous cases, death from cachexia had resulted after a few months.

**Myxo-sarcoma of the Falloppian Tube.**—The Chairman read an account of a case of this sort, and presented an enormously enlarged and semi-solid tube removed by laparotomy. The case was interesting on account of its unexpected termination in death after the operation, owing apparently to the effects of morphine previously used to control the intense pain. Excruciating pain at the pit of the stomach had come on soon after the successful completion of the operation. Morphine, atropine, sulphonal, and acetanilide were used, but without relieving the pain in the stomach. A mustard poultice over the epigastrium and rectal feeding were also tried. Fæcal vomiting came on in spite of the free use of saline cathartics and enemata. The wound was opened, and the possibility of peritonitis was excluded with reasonable certainty. There had been no evidences of septicæmia. The speaker believed that the pain at the pit of the stomach, the inability to retain even liquids, and the stercoraceous vomiting were all due to a general nervous exhaustion in the whole alimentary tract. He had in former years had other such cases after prolonged operations for the removal of large ovarian tumors. In this case he ascribed all the symptoms of disorder in the functions of assimilation to the previous long-continued use of morphine. He had seen a number of exactly similar cases in which the post-mortem had shown that neither peritonitis, nor septicæmia, nor any kink or occlusion in the intestines had been present. In all of these there had been stercoraceous vomiting, without any intestinal occlusion that could be demonstrated, either at the time or at the autopsy.

Examination of the diseased tube showed a club-shaped enlargement, the greatest diameter of which was two inches. The tube was patent throughout, and its epithelium intact; it had contained no pus at any time. Its course through the neoplasm was very tortuous. The peritonæum covering the neoplasm and the ovary was normal in appearance and without increase of its connective-tissue elements. The tissue of which the new growth was composed had been developed entirely outside the Falloppian tube, between the basement membrane upon which its epithelial cells rested and the lower surface of the peritonæum forming the broad ligament. It consisted mainly of embryonic connective tissue, the dense white fibrillated and the yellow elastic forms of connective tissue being present in smaller amount, and also some smooth muscular fiber, zones of mucoid tissue, and cells of many shapes belonging to various forms of tissue. The growth was in no sense an inflammatory deposit, and might best be termed a composite myxo-sarcoma.

Dr. Mundé said that the history given reminded him of several instances in his own experience where death had followed operations on the abdomen in a somewhat similar way, but he had always supposed it due in these cases to septicæmia. He had not, however, observed stercoraceous vomiting in his cases, and thought such a symptom must point to some sort of obstruction in the bowel.

Dr. Dudley agreed with Dr. Mundé that stercoraceous vomiting must have some special cause, and thought it strange that a "paralyzed" intestinal tract should show energy enough, even of a reversed sort, to allow of such incessant regurgitation and retching as had occurred in the chairman's patient. Just what the obstruction had been due to he was not ready to say, although he was convinced that one must have existed. The examination through the small opening spoken of could not have determined whether or not an intussusception or a band of adhesive exudation was present at some part of the intestinal tube. He had had cases in which complete obstruction had persisted for some time after an operation, and, after hours of treatment, had suddenly disappeared, a distinct noise ("snap") being heard at the same time. It appeared in such cases to have been a localized peritonitis, which so affected the muscular coat of that part of the intestine involved (by an action on its nerve-ends or ganglia) that none of the intestinal contents was allowed to pass through.

The CHAIRMAN replied to this that he had meant by a paralysis a loss of normal action. To Dr. Mundé he could only answer by repeating that there had been no septicæmia in his case, no peritonitis or exudation of either lymph or serum. The pain had been confined to the stomach.

**Fistula in Ano in the Female; Operation by Suturing.**—Dr. H. W. MITCHELL read a paper with this title. In the cases, the history of which he related, other operations had been done at the same time, either for uterine disorders, lacerations of the cervix or perinæum, or hæmorrhoids, and sometimes several of these at once. He laid great emphasis on the advantage of dissecting out all the fibrous tissue in the tract of the fistula, and uniting the fresh wound so made both with deep tension sutures of silver wire carried below the bottom of the wound and also with interrupted superficial sutures of silk. He reported a number of cases in which the union obtained had been so complete as to leave no trace of the fistula or its site. He emptied the lower bowel by an enema before the operation, and kept it inactive for a considerable time afterward with opium.

Dr. CURRIER thought the operation for fistula severer than was called for in ordinary cases, in which he considered Emmet's plan sufficient. He had found an instrument comparable to a dentist's burr the best one for cleaning out and freshening the edges of a fistula, and, having done so, used, in ordinary cases, only a single silver-wire suture, passed around so as to approximate the sides of the tract. He did not believe it well to keep the bowels closed so long as Dr. Mitchell advised, and objected to the use of opium. Even after operations for lacerated anus he had found it feasible to allow a movement of the bowels on the third or fourth day.

**Combined Operations in Gynæcology.**—Dr. MUNDÉ read a paper thus entitled. (See p. 534.)

The CHAIRMAN, Dr. DUDLEY, Dr. MURRAY, and others discussed the value of combined operations, the general opinion being in their favor. It was generally agreed that catgut sutures, especially those prepared in chromic acid, could be used in operations for cervical lacerations, as well as many other gynæcological operations. Dr. Dudley used two silver crown sutures to remove the tension (besides catgut), but removed them about the tenth day. Attention was called by Dr. Mundé to Sänger's recommendation of silkworm gut in perineal operations as causing less pain than any other suture.

## NEW YORK CLINICAL SOCIETY.

*Meeting of March 26, 1889.*

The President, Dr. L. BOLTON BANGS, in the Chair.

**The Periodicity and Duration of the Menstrual Flow.**—Dr. FRANK P. FOSTER presented some observations of the behavior of the menstrual function in women under treatment for various affections of the pelvic organs. Excluding cases in which the patients had stated, either spontaneously or in reply to questions, that there was some abnormity of menstruation, he had considered for the purpose of his present remarks only those of women whose ailments had not, in their own estimation, been accompanied with disordered menstruation. He had excluded also all cases in which fewer than five menstrual periods had been recorded. Thus circumscribed, his observations related to fifty-six women, twenty of whom had been pregnant at some previous time, and thirty-six of whom had never been pregnant. The number of periods observed in each case ranged from five to eighteen. In only one instance had perfect periodicity been noted, the interval from the beginning of one menstruation to the beginning of the next one being twenty-six days. There had been a difference of one day in one case, of two days in four cases, of three days in three cases, of four days in eight cases, of five days in six cases, of six days in four cases, of seven days in three cases, of eight days in four cases, of nine days in four cases, of ten days in one case, of eleven days in six cases, of twelve days in two cases, of thirteen days in two cases, of sixteen days in two cases, of seventeen days in one case, and of eighteen days in one case. In other words, the intervals had varied as follows:

From 16 to 29 days in 1 case.
" 16 " 34 " " 1 "
" 16 " 42 " " 1 "
" 18 " 29 " " 1 "
" 20 " 27 " " 1 "
" 21 " 26 " " 1 "
" 21 " 27 " " 1 "
" 21 " 30 " " 3 cases.
" 21 " 33 " " 1 case.
" 21 " 37 " " 1 "
" 21 " 38 " " 1 "
" 21 " 46 " " 1 "
" 22 " 26 " " 1 "
" 22 " 28 " " 1 "
" 22 " 30 " " 1 "
" 22 " 38 " " 1 "
" 23 " 27 " " 1 "
" 23 " 28 " " 2 cases.
" 23 " 29 " " 1 case.
" 23 " 31 " " 2 cases.
" 23 " 32 " " 2 "
" 23 " 34 " " 1 case.
" 24 " 25 " " 1 "
" 24 " 26 " " 1 "
" 24 " 27 " " 1 "
" 24 " 31 " " 1 "
" 24 " 33 " " 1 "
" 25 " 29 " " 4 cases.
" 25 " 30 " " 1 case.
" 25 " 32 " " 1 "
" 25 " 38 " " 1 "
" 26 " 28 " " 1 "
" 26 " 30 " " 1 "
" 26 " 31 " " 1 "
" 26 " 32 " " 1 "
" 26 " 36 " " 1 "
" 27 " 29 " " 1 "
" 27 " 30 " " 2 cases.
" 27 " 31 " " 1 case.
" 27 " 38 " " 4 cases.
" 28 " 30 " " 1 case.
" 34 " 36 " " 1 "

Out of 380 menstruations, 45 had taken place after an interval of twenty-eight days, 225 after shorter intervals (the shortest being sixteen days), and 110 after longer intervals (the longest being forty-six days). In the instances of very long intervals following very short ones, it was reasonable to suppose that a menstruation had been missed. Allowing for these sources of possible error, the speaker had still been surprised at the great irregularity shown among women who had stated that their menstruation was regular. It had been the rule in his experience for women to profess themselves regular, and not uncommon for them to add that their periods always began on the same day of the month. Of course, these two statements were somewhat conflicting, inasmuch as all the calendar months were not of the same length; it might be imagined, however, that the variation of but two or three days that would be needed to make the occurrence of consecutive menstruations fall on the same day of the month took place as the result of psychical influence, the woman being under the conviction that her next period was to fall on a particular day of the month. Nevertheless, the speaker had not observed any facts that would bear out this supposition; indeed, he had never noted the regular recurrence of menstruation on the same day of the month. He had inferred from his observations that many women were decidedly irregular without realizing the fact, and consequently that regularity of menstruation ought not to be set down in the history of a case simply on the strength of the patient's statement. There were some women, however, who were very precise observers of themselves, but it was not until they had been under his care for some time that a physician could feel convinced of the fact. The speaker had been astonished at the amount of irregularity that he had noted, but the number of observations was, of course, too small to serve as the ground for any sweeping conclusions.

As to the duration of the flow, it had varied as follows:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| From | 1 | to | 2 | days | in | 3 | cases. |
| " | 1 | " | 3 | " | " | 2 | " |
| " | 1 | " | 4 | " | " | 1 | case. |
| " | 1 | " | 5 | " | " | 2 | cases. |
| " | 1 | " | 6 | " | " | 1 | case. |
| " | 2 | " | 3 | " | " | 4 | cases. |
| " | 2 | " | 4 | " | " | 6 | " |
| " | 2 | " | 6 | " | " | 1 | case. |
| " | 2 | " | 7 | " | " | 1 | " |
| " | 2 | " | 9 | " | " | 1 | " |
| " | 2 | " | 15 | " | " | 1 | " |
| " | 3 | " | 4 | " | " | 1 | " |
| " | 3 | " | 5 | " | " | 11 | cases. |
| " | 3 | " | 6 | " | " | 4 | " |
| " | 3 | " | 7 | " | " | 3 | " |
| " | 3 | " | 9 | " | " | 1 | case. |
| " | 3 | " | 11 | " | " | 1 | " |
| " | 3 | " | 12 | " | " | 1 | " |
| " | 4 | " | 6 | " | " | 2 | cases. |
| " | 4 | " | 7 | " | " | 2 | " |
| " | 5 | " | 6 | " | " | 2 | " |
| " | 5 | " | 7 | " | " | 1 | case. |
| " | 5 | " | 14 | " | " | 1 | " |

In only two instances had the duration of the flow been found to be the same at all the periods observed—one day in one case, and two days in the other.

Dr. J. H. Emerson had been surprised at the results of Dr. Foster's observations. The variations in the length of the period and in the regularity of its recurrence recorded by Dr. Foster were greater than he had supposed commonly existed. The only suggestion that he could make bearing on the correctness of the conclusions was that the women upon whom the observations in question had been made had uterine diseases or other pelvic disorders, and the menstrual function might have been disordered by those diseased conditions. He believed it a generally received impression among physicians that the menstrual function was ordinarily performed with a greater degree of regularity.

Dr. C. B. Kelsey inquired as to the condition of the ovaries in the women upon whom the observations had been made, whether they were diseased or not; and the Chairman asked if Dr. Foster would have it supposed that such intervals as thirty-one days had been physiological for the women in whom they had occurred.

Dr. Foster replied that the cases had not been selected, except as he had already stated. As to the condition of the ovaries, in by far the greater number of cases there had been no discoverable abnormity. He repeated that the number of observations was too small to serve as the foundation for any broader inferences than he had indicated. Whether the long and short intervals between different periods which he had observed had been physiological or not he could not say. He only knew that these intervals had occurred. It had not been uncommon for him to be asked by a patient who was usually very regular, but in whom a certain period had come on too soon or too late, whether she ought to expect that the next period would come on at the usual time after the day of the month on which the last one should have come but had not, or at the same interval after the recent irregular period considered as a new starting-point. He had never been able to answer this question, and no observations he had been able to make had thrown the least light on it. The next period might come on a day of the month that seemed to have no relation either to the last actual period or to the time when presumably that last period should have occurred. His records had been based on the appearance and duration of a flow of blood as observed and remembered by the patients themselves, and not on actual inspection. It was true that with the speculum a slight discharge of blood was often detected a short time before the patient was aware that she was menstruating and after she supposed that the period had ceased.

**A Death from Ether.**—Dr. W. Duncan McKim read a paper with this title. (See page 598.)

Dr. D. Bryson Delavan thought that in his closing remarks Dr. McKim had touched upon one of the most important matters in surgery. He himself had frequently seen the crude and unsatisfactory work done in the giving of anæsthetics. He had been surprised in talking with foreign surgeons to see how they preferred chloroform to ether. He had used chloroform in upward of sixty operations of late, and had been very much pleased with its action. Statistics collected in Europe had proved chloroform to be as safe as ether or even safer. Carefully employed, well understood, closely watched, and given in selected cases, he considered chloroform safe. Under these conditions of administration, accidents from anæsthesia would be infrequent. In several cases he had known death follow the administration of ether, apparently from irritation to the lung. With chloroform there was neither irritation to the lung nor a stage of excitement. Among the number of deaths set down as due to chloroform there were many in which dentists had administered it before extracting teeth, with little knowledge of the proper method of doing so, the patient being in the upright posture, and no selection of cases being made. Statistics had been made in institutions where both chloroform and ether had been used, and where they had been administered by the same assistants. In such records, although the number of times chloroform had been used greatly exceeded that in which ether was employed, the number of deaths was about the same.

Chloroform, although commonly used in the South and West, was certainly not so well known in America as in Europe. But those who had used it and had also had some training as to how to use it (which must, of course, be imparted to the assistant) felt that it was too good an agent to be dismissed from our repertory.

Dr. H. M. Biggs agreed to what had been said as to the crude methods employed in giving ether in our hospitals. The juniors were commonly asked to give the ether, and received no instruction before and no attention at the time of the operation. He had repeatedly seen a patient deeply cyanotic and no one noticing the fact. He believed that deaths from ether were very much more common than was commonly supposed. Four had come to his knowledge as occurring in one of the large hospitals of New York during the last four or five years, but there had probably been a number of others. He believed that unnecessary amounts of ether were often used. In careful hands six ounces might be sufficient to keep a patient thoroughly anæsthetized for two hours, but he had seen a pound and a half or two pounds used under the same circumstances, and he thought such doses had a great influence in intensifying and prolonging shock after an operation and in diminishing the chances of ultimate recovery.

Dr. F. W. Murray had seen death result after three or four days from the effects of the ether on the kidney in three separate instances. He made it a rule to use nitroglycerin whenever there was any reason to suspect kidney trouble. He did not believe the mortality of chloroform was large where it was well given. In England it was the leading anæsthetic.

Dr. W. H. Katzenbach, referring to the case related by Dr. McKim, thought that, considering the condition of the lung and the mitral obstruction, the matter of an anæsthetic should have been carefully considered. At least half an ounce of whisky or some other stimulant given before the anæsthetic might have changed the result. Some believed that in aortic disease ether should never be given at all.

Dr. Kelsey thought that the real point at issue had been brought out by the last two speakers. The time was coming when the choice between ether and chloroform would no longer be an arbitrary one, but would depend entirely upon the condition found to exist in the patient. Each of the two would be contra-indicated in certain cases. He had had one death occurring in his practice from each. He disliked giving either intensely, and shrank from the necessity of doing so as often as it occurred. It was a serious thing to give any anæsthetic to a delicate patient. He was not yet convinced that ether equaled chloroform in its poisonous effects, but believed that deaths from ether were really much more frequent than was generally supposed, and cited the results published by Weir of his search in the records of the New York Hospital.

Dr. Foster remarked that he had often felt anxious as to the result when he had seen patients deeply etherized, but he had seen only one death from ether, which had occurred many years ago. The patient was a man upon whom Dr. Markoe was about to operate for traumatic aneurysm. He was a robust man, who had fallen from a tree with a knife in his hand, and received a punctured wound in the neck implicating the carotid, as the result of which a large effusion of blood had resulted. The ether was given very carefully, but the man died before the operation was begun. The speaker had always supposed that the pressure exerted by the extravasated blood and the sac about the aneurysm on the nerves in the neck had crippled the action of the heart, and perhaps of the lungs also, and so contributed as much as the ether to the death. He stood in great dread of chloroform, and would not sanction its being given to any one, unless under special circumstances of great urgency. It would be well to consider what the result would be if chloroform came to be generally used, and consequently used with more or less recklessness. It was not fair to compare the careful, skilled administration of chloroform and its results with the results that had followed the use of ether given in the ordinary way. A very striking fact bearing on the question was to be found in the circumstance that in Great Britain ether was now coming very largely into use.

Dr. Kelsey suggested that the two countries had each been using one of the two anæsthetics almost exclusively. Each, finding that deaths occurred, was beginning to try the other agent, largely from ignorance of its drawbacks.

Dr. J. West Roosevelt thought that much of the bad effects of ether could be attributed to the practice of half choking a patient for a considerable time by too much exclusion of air. It was possible that a patient might be made more liable to after-trouble if kept blue in the face for a long period. This of itself, to say nothing of the possible dangers of ether *per se*, was a dangerous thing.

The President wished to emphasize all that had been said as to the difference it made whether the ether was well given or not. He had sometimes wished there might be a school started for teaching students how to give ether. He did not consider that ether of itself caused cyanosis. He often had to tell a young man who held the cone to give the patient more oxygen, and then less ether would be needed. When unnecessary amounts of ether were used, some of it went into the patient's mouth and caused coughing, but he was convinced that a large proportion of the excess was absorbed. He had many times seen patients strangled and cyanosed—really being poisoned by carbonic anhydride. He agreed that the deaths which took place from ether secondarily made up a large part of the mortality that must be charged to it.

Dr. J. E. Winters believed that chloroform was always safe where there was no organic disease of the heart, and hence in children free of valvular disease. But, as adults might have a degenerated condition, fatty or other, in the heart that could not be recognized, chloroform was not necessarily safe because the heart seemed normal. In the country, where fatty degeneration was rare, chloroform was practically safe. In cities, where there were so many victims of alcohol and syphilis, it was not safe. He thought that before ether was given the state of both the heart and the lungs should be known. Thus, in phthisis ether was safe if the heart was not affected; not otherwise. While there was too much carelessness in the giving of both ether and chloroform, he thought there were more men who could give ether safely than there were who could do the same with chloroform. He had never seen the latter given in New York without being pushed too rapidly. The rule was that its vapor should form only three hundredths of the air the patient inspired, yet it was common to see a handkerchief wet with chloroform laid directly on the mouth. The physician under whom the speaker had learned to give chloroform had used it for thirty-six years continuously, and had never had an accident. He thought the cases in which ether should be used could be selected with practical certainty. As Emmet, in the first edition of his "Diseases of Women," had insisted, before ether was given the urine should always be examined. Stress had been laid on the carelessness with which ether was given, but as a fact most of the deaths occurred some time after the patient had come out from its influence, and were due to pulmonary or renal disease, and here the manner of giving it, whether good or bad, had little to do with the result. Chloroform might kill at the time, but did not cause after-troubles.

Dr. W. G. Thompson had for a time used chloroform in experimenting with animals, but the deaths had been so many that he had given up using it entirely. He had seen as much carelessness in the giving of chloroform in Germany as in the giving of ether here, and as much cyanosis and heart weakness. He could not agree with Dr. McKim that the excessive amount of ether sometimes given did not enter the lungs. It must be absorbed in order to come away as it did, in the breath, the urine, and the exhalation from the skin, for hours afterward.

# Reports on the Progress of Medicine.

## MATERIA MEDICA AND THERAPEUTICS.

By H. N. Vineberg, M. D.

**Agaricin.**—Dr. A. Radcliffe and Dr. A. B. Pope ("Ther. Gaz.," 1888, No. 6) give their experience with this drug in night-sweats. Dr. Radcliffe used the following formula: Agaricin, 0·12 grm. (1·8 gr.); pulv. Doveri, 0·1 grm. (1·5 gr.); pulv. gummi arab., q. s. Ft. pil. xxxv, div. Sig.: One at bed-time. He found it uniformly successful. Dr. Pope used the drug while an interne in the Bellevue Hospital, and administered it to a great number of patients. He prescribed it in doses of an eighth of a grain at bed-time, and repeated this dose usually twice during the night at intervals of two, three, or four hours. In the majority of the cases these were sufficient to completely control the night-sweating. In some cases the foregoing dose was given every four hours, day and night. In one case in which it was pushed beyond this, symptoms that were thought referable to the drug manifested themselves. In several instances agaricin succeeded where belladonna or atropine had failed, and without giving rise to any unpleasant symptoms whatever. He found the following combination valuable: Agaricin, gr. x; acid. sulph. arom., ♏ m. The dose of this was mixed in syrup or simple elixir, given at night only, or every four hours. Nothing definite is stated of the untoward symptoms which the drug may produce.

**Phenacetin.**—Dr. Hugo Hoppe ("Therap. Monatsh.," 1888, No. 4), on the basis of an extensive experience with this new drug, draws the following conclusions: Phenacetin is a drug which in small single doses—1½–4½ grs. in children, and from 3¾–7½ grs. in adults—has a powerful antipyretic effect without producing any disagreeable symptoms. It probably acts through the central nervous system. In strong persons three doses in succession may be given, but in weakly individuals, reduced by a long infectious disease, and more especially in phthisical patients, the drug is not free from danger. In cases of acute febrile affections it can be given as well as antipyrine and acetanilide. In larger doses (gr. 15 to 30), in healthy persons, it acts variously, acting more powerfully on easily excited temperaments. Its action is principally a sedative one, causing lassitude, yawning, and sleepiness; in a few cases it causes vertigo, chilliness, and nausea. In these large doses (given after a time repeatedly daily), phenacetin is a valuable anti-neuralgic, especially against migraine. It acts usually slowly but surely in from one to two hours, and for the most part without any untoward after-effects. When the latter do appear, they are usually mild and soon disappear. It should be preferred in these cases to acetanilide on account of its relative innocuousness.

**Antipyrine and Acetanilide as Nervines compared with Solanine.**—Dr. G. Sarda ("Bull. gén. de thér.," 1888, No. 20), after employing these drugs in the clinic of Professor Grasset, of Montpellier, in over one hundred and thirty patients, makes the following deductions: Antipyrine, acetanilide, and solanine are valuable nervines. Antipyrine is more valuable than the two other remedies in articular rheumatism, in primary and secondary migraines, in acute neuralgia, and in paroxysmal attacks of pain. Antipyrine and acetanilide act about equally well in chronic articular rheumatism and in the lancinating pains of tabes. Acetanilide is to be preferred to antipyrine in chronic neuralgia and in disturbances of motor excitability. Solanine is a very valuable analgesic. While it ranks close to antipyrine and acetanilide in acute articular rheumatism, it excels these agents in chronic neuralgias, especially when it is attended with neuritis. It mitigates the gastric and lancinating pains of the ataxic, and it is a particularly serviceable remedy in the disturbances of motor excitability, far excelling acetanilide. Under its use the tremor of multiple sclerosis and the increased reflexes rapidly disappear. The medium dose is from 0·25 to 0·30 grm. (3¾–4½ grs.) in the twenty-four hours.

**Glycerin as a Purgative.**—Dr. Karl Ullmann ("Ctrlbl. f. die ges. Ther.," August, 1888) contributes an exhaustive article on this subject, which already, in the short space of a year, can boast of quite an extensive literature. Mixed with water, glycerin enemata, he soon learned, were often attended with failure in chronic constipation. He employed a small glass syringe with its end covered with caoutchouc, and with a capacity of 3 c. ctm. (♏ 45). A syringeful of pure glycerin was administered and the cases selected were those in which constipation had existed for at least two or three days, the maximum duration being twelve days; 226 enemata altogether were given, and the result of each enema was noted separately. The quantity of the produced dejections varied; in 31·4 per cent. the stools were copious, in 45·5 per cent. they were moderate in amount, and in 23·1 per cent. they were very scanty, containing merely the injected glycerin mixed with some mucus and a brownish fluid. In 83 per cent. the stools were hard, consisting chiefly of scybala, in 13 per cent. they were pappy and unformed, and in 4 per cent. they were of a diarrhœic nature. Subsequent constipation occurred in 39 per cent. Diarrhœa followed only in 3 per cent. Painful sensations during the stool, or immediately afterward, such as a burning in the rectum and colic, were complained of only by five patients, three of whom were suffering from acute parametritis, one from retroversion of the uterus, and one from chronic tubercular peritonitis. Borborygmi existed in 4 per cent. only. Abnormal quantities of mucus occurred in four cases. Blood in quantities sufficient to be noticeable was observed in two cases. Of the fifty-two cases in which the enemata failed, the author could find no cause for the failure in the primary disease. In all, however, he was enabled to detect by palpation an atonic condition of the rectum, or an accumulation of the fæcal mass higher up than usual. The author favors the theory that the local purgative action of glycerin is due to its power of abstracting water from the tissues, and in this way irritating the rectal mucous membrane and causing contraction of the muscles of the rectum. Enemata of glycerin are serviceable where, for any reason, a rapid evacuation of the lower part of the bowel is indicated. They are of no use when the accumulation of fæces is in the upper part of the large bowel, or in the small intestines. They are contra-indicated in ulcerative conditions of the rectum, and in painful inflammatory affections of neighboring parts. In habitual constipation they can not replace dietetic regimen, massage of the bowels, and well-known aperients. Further observations are necessary to determine whether their continued use is not injurious to the rectal mucous membrane.

**Sulphonal, the New Hypnotic.**—Dr. H. Rosin ("Berl. klin. Woch.," 1888, No. 25) has made several carefully conducted experiments with this new drug, and concludes that in doses of 1 grm. (gr. xv) it is of little use, but that in doses of 2 grm. (gr. xxx) it produces a good night's sleep. Of particular interest regarding its hypnotic effect was the circumstance that a dose of 2 grm. (gr. xxx) would procure sleep during the day in individuals not accustomed to sleep in the day-time. Untoward symptoms were never witnessed after these doses. A small number of the patients complained of giddiness after waking, which disappeared in from fifteen to sixty minutes. Headache was never once observed. The drug was administered to several patients with cardiac trouble without any evil after-effects. The experiments did not extend over a sufficient length of time to determine whether the system became accustomed to it. Sulphonal in hypnotic doses has a decided influence upon the bronchial mucous membrane. It was given to a number of phthisical patients suffering with an irritating cough and with insomnia. The cough, in a majority of these, was materially lessened by doses of 3 grm. (gr. xlv). But morphine, in doses of one sixth of a grain, had a decidedly greater influence upon the cough; so that it must always be preferred to sulphonal where insomnia is attended with an irritable cough or any painful condition. Sulphonal in doses of 4 grm. (ʒ j) produced a deep sleep, lasting from three to four hours in the day-time and from eight to twelve hours in the night. The persons in all these instances awoke with a feeling of giddiness, which continued the whole day. On the following night the sleep was as sound as on the preceding night, if not more so. Symptoms other than giddiness were not observed to follow these large doses.

In the same number of the journal Dr. Oestreicher gives his experience with the drug in one hundred patients. The diseases from which they suffered were as follows: One had phthisis, nine had paralytic dementia, eighteen had senile dementia, ten had mania, thirteen had melancholia, seventeen had paranoia, four had hysteria, ten had epilepsy, and forty-one had the morphine habit. The results corresponded, in the main, with those given in the foregoing paper. The author found sulphonal of little use in the first few days of abstinence from morphine. He compared the drug with the usual hypnotics—chloral, paraldehyde, hydrate of amyl, and morphine—and found that it was slower in its effects, taking usually from one to three hours.

**The Method of Administering and Prescribing Sulphonal.**—Professor A. Kast ("Ther. Monatsh.," 1888, No. 7) attributes the delayed action of this new hypnotic to two causes: One is its insolubility in water, and the second is a chemical one—the great resistance of its molecules. It is only soluble in 450 parts of water at the temperature of the blood. Its solubility, however, is increased by the addition of chloride of sodium. In a two-per-cent. solution of salt one part will dissolve in 250 parts. The same may be said of the acids. In a solution of hydrochloric acid of the same strength as the gastric juice one part will dissolve in 272 parts. The presence of salts and peptones still further favors its solubility. To solve the question of how sulphonal behaves after it has been taken into the stomach, experiments were made upon dogs. As a result of these experiments, it was found that after all the sulphonal had been absorbed from the stomach a small portion of it, undecomposed, was circulating in the blood. The drug, therefore, should be given in a finely powdered form in at least 200 parts of a warm liquid, and two or three hours before bed-time. The best time to give it, then, would be with the evening meal, when it finds favorable conditions for its solution and decomposition.

**Unfavorable Experience with Sulphonal.**—Dr. Schmey (*ibid.*) reports a case in which the administration of the drug was followed by dangerous symptoms. It was in a man, sixty-one years of age, who, on account of arterial sclerosis, suffered from angina pectoris and insomnia. Nitrite of amyl diminished the frequency of the attacks of angina, and the insomnia was successfully treated with three-gramme (45-grain) doses of hydrate of amylene. But, as the patient refused after a time to take this drug, on account of its taste, a single dose of two grammes (30 grains) of sulphonal was administered. The effects were alarming. Immediately after the dose was given the attacks of angina set in with great severity and frequency. During the whole night they recurred every few minutes in spite of the inhalation of nitrite of amyl. Real sleep did not occur; only a slight slumber of about two hours' duration, which was interrupted by the attacks. For the two days following, the attacks recurred with unusual severity and frequency.

[The foregoing case is of great interest, inasmuch as Kast, the introducer of this hypnotic, makes the special statement that it has no ill effects upon the heart. He says it may be safely given in all forms and states of heart disease. Dr. Schmey's experience, however, should make us very careful in giving it in cases of malnutrition of the heart due to interference with the blood-supply.]

**Codeine in Painful Affections of the Abdominal and Pelvic Organs.**—Dr. Lauder Brunton ("Brit. Med. Jour.," June 9, 1888) undertook to test practically the results of Barbier and Berthé's experiments, which showed that codeine had a specific effect upon the sympathetic. For this purpose he gave the drug in affections of the pelvic and abdominal organs, and the results were extremely gratifying. In one case of perityphlitis a dose of one grain gave immediate relief to the pain. In a woman suffering with a painful tumor in the pelvic cavity, half a grain had the same magic effect. In one case of pain in the abdomen, due to accumulation of fæces in the bowels, codeine relieved the pain without interfering with the functions of the bowel. The drug was also found serviceable in relieving the pain in cases of cancer of the liver and pancreas. In these cases the author gave 0·04 grm. (⅔ gr.), three times daily, in pill form, with extract of gentian. It caused no stupor, and did not interfere with digestion. He found the drug relieve the pain for months in long-standing cases of enteralgia without any anatomical cause. The dose was 0·07 grm. (1⅙ gr.) three times daily. In cases where diarrhœa is present, as in many cases of carcinoma of the colon and rectum, morphine and opium are to be preferred to codeine, in that they influence the peristaltic action of the bowels.

**Subcutaneous Injections.**—Dr. F. Balzer and Dr. A. Klumpke ("Jour. de méd. de Paris," 1888, No. 5) have studied the local effects of certain drugs and substances injected under the skin.

*Antipyrine.*—Subcutaneous injections of this drug were made in sciatica, rheumatism, and various kinds of neuralgia. The solution consisted of 0·5 grm. (7½ grs.) of antipyrine and 1 grm. (♏15) of water. In general the effects were favorable, the pains were usually relieved, but the injections were always painful. Ecchymoses were often observed at the seat of puncture. In one case, in which an autopsy was made, there were found minute hæmorrhages, small inflammatory lesions, and microscopical abscesses. These lesions are found, to a lesser or greater extent, in subcutaneous injections with every agent. They are the least marked when morphine is employed.

*Arsenic.*—Injections of Fowler's solution are attended with intense changes; the pain is even greater than with antipyrine. In stronger solutions, coagulation necroses occur.

*Chloroform.*—An injection of equal parts of chloroform and vaseline was made over the trochanter of a woman suffering with an obstinate sciatica which did not yield to various remedies. The pains disappeared, and the only change at the seat of puncture was anæsthesia. A small slough appeared at the most painful part over the malleolus, but the sciatica was cured. The authors explain the action of chloroform in this case by its causing a necrosis of the nerve similar to that produced by the local contact of ether. They consider these injections indicated in neuralgias of superficial nerves. Injections of nitrate of silver, carbolic acid, etc., seem to act in the same way.

*Eucalyptus.*—A solution of oil of eucalyptus, 0·05 to 0·10 grm. (gr. ¾–1½) in ♏xv of oil, was employed. The injections were not painful; the absorption of the eucalyptus took place rapidly, as was evident from the breath. The eucalyptus seemed to have a favorable influence upon the bronchitis; the expectoration became easier and less copious. On the course of tuberculosis it had no influence. At the autopsies of tubercular patients, at the points of the injections, which were mostly indurated, the greater part of the oil was found infiltrating the surrounding tissues; in older lesions the oil was found in small accumulations, and here and there were to be seen small hæmorrhagic areas. Vaseline does not seem to be well suited for injections, inasmuch as it is not easily absorbed. The authors are of the opinion that some mineral oil or white cod-liver oil should be used instead of vaseline. Vaseline remains in the tissues as a foreign body. Injections of hydrochloride of cocaine in solution in water were more efficacious than solutions of pure cocaine in oil.

**Antipyrine in Polyuria and Diabetes.**—Dr. H. Huchard ("Rev. gén. de chir. et de thérap.," 1888, No. 21) has employed antipyrine in four-gramme (ʒ j) doses daily in symptomatic polyuria attendant upon meningomyelitis. The patient, who had been passing from 28 to 30 litres of urine, had the quantity reduced to 3 or 4 litres. Antipyrine would seem to be indicated in polyuria dependent upon bulbar affections. In one case of diabetes, after giving the drug for a few days, the author observed a diminution of the quantity of sugar from 735 grms. to 271 grms., but the proportion of sugar to the litre showed very little change. The continued administration of antipyrine did not seem to produce albuminuria.

**Ether in Cardiac Insufficiency.**—Professor H. Bamberger ("Wiener klin. Woch.," 1888, No. 12) was struck with the almost magical effects of a subcutaneous injection of ether in a case of advanced heart disease. The history of the case was the following: The patient, a man sixty years of age, was the subject of insufficiency due to fatty degeneration of the heart muscle, and had dropsy, albuminuria, swelling of the liver, severe dyspnœa without any lesion of the lungs excepting a moderate catarrh of the bronchi, and obstinate insomnia. The dyspnœa increased to such an alarming extent that the attending physician in sheer despair gave a few injections of ether subcutaneously. These had a most striking effect: the urine immediately increased in quantity, the anasarca decreased, and the dyspnœa became very much less. The improvement was so great that the patient was enabled a few months afterward to undergo Oertel's cure (graduated exercise in climbing mountains). The following spring the patient had an attack of apoplexy, no doubt due to an embolism. The anasarca now returned, but yielded to treatment by calomel; the patient, however, grew weaker and finally died. Two theories may be offered to explain the wonderful effects of the ether: either it acted upon the heart and goaded the paretic organ to a last effort and in this way overcame the congestion of the renal vessels, or it acted directly upon the secreting functions of the kidneys.

**Creasote in Pulmonary Phthisis.**—Von Driver ("Berl. klin. Woch.," 1888, No. 35) has been employing this agent in a great number of cases of phthisis for the past three years. He gave it mixed with alcohol, as recommended by Fräntzel, and the dose was increased according to the results obtained until the maximum dose—0·75 grm. (11¼ grs.)—was reached. The author summarizes as follows: 1. Creasote, as a rule, is well borne when it is begun in small doses, well diluted, and given at meal-times. It was better borne when the patients grew accustomed to its taste in mixture than in capsules. 2. Appetite and digestion were usually favorably influenced by the drug, especially when abnormal fermentation took place in the stomach or in the intestines. Tubercular diarrhœa, however, could not be stopped with it for any length of time. 3. An undoubted influence upon the tubercular fever the author did not observe in a single case, notwithstanding accurate measurements of the temperature were taken. 4. Just as little influence could be observed from the treatment on the tubercular processes of the lungs. The improvement that was observed was due entirely to a bettering of the hygienic surroundings. 5. Admitting some exceptions, the treatment by creasote finds its indication in those cases only which have scrofula for their foundation, and are of a torpid nature. The patients affected with this form of phthisis present, in spite of a poor and perverted appetite, a fair proportion of adipose tissue, suffer very little with cough, though they may have considerable expectoration, and have very little tendency to fever and night-sweats, although the lungs may be breaking down pretty rapidly. The author has seen a marked improvement of all the symptoms in these cases when creasote was administered, and he is of the opinion that the treatment of phthisis by this agent in the future will be solely limited to this class of cases.

**Simulo in Epilepsy.**—Dr. W. Hall White ("Lancet," March 31, 1888) states that simulo is the fruit of the *Capparis coriacea*, and is indigenous to Bolivia. Dr. Lorrea had reported a case of epilepsy which he cured by this agent. The author tried the tincture of simulo in a number of cases. He did not observe any untoward effects from the drug, when given to either healthy or sick persons. He does not feel justified in drawing any conclusions from his experience. Still, in some cases he has seen a decided decrease in the number of attacks, and would suggest a further trial of the remedy.

**Pelletierine in Tape-worm.**—Dr. Bérenger-Feraud ("Bull. gén. de thér.," 1888, No. 30) speaks highly of this agent in tænia lata. In his experience it succeeds seven or eight times out of ten. It should always be followed by a purgative. When it fails, both the drug and the subsequent purgative should be given in a double dose.

**The Effects of Digitalis on the Normal Temperature and on the Pyrexia of Typhoid Fever.**—Dr. Joseph Leidy, Jr. ("Ther. Gaz.," 1888, No. 10), from experiments made on patients in the University Hospital, Philadelphia, with digitalis in heart cases with normal temperatures and typhoid-fever cases, draws the following conclusions: I. Digitalis depresses normal temperatures from a degree to a degree and a half. This subnormal range remains from one to two days after the administration has ceased. II. In typhoid fever, digitalis reduces the pulse-rate, diminishes the respirations, and depresses the temperature. III. With a fall in the pulse and respirations there is a corresponding decline in the temperature. IV. A weak heart is no contra-indication to the use of digitalis. V. The main indication for the use of digitalis is a weak heart, independent of the hyperpyrexia. VI. Though a most powerful antipyretic in the treatment of hyperpyrexia when associated with a weak heart, it should not, however, be used to meet this indication when there are no evidences of cardiac weakness—*i. e.*, when the pulse is strong, full, and bounding.

**Iodol.**—Assaky ("Ctrlbl. für klin. Med.," 1888, No. 21) has used this drug in a number of operation wounds and mammary abscesses with excellent results, but with only variable results in buboes and chancroids. The author has had gratifying results with the internal administration of iodol in the late stages of syphilis and in surgical cases of scrofula. In these cases the daily dose varied from 0·5 to 2 grm. (7½ to 30 gr.). Slight symptoms of intoxication, such as headache, nausea, and colic, were observed, but these did not interfere with the continued use of the drug. Coryza was seldom witnessed. It is remarked as worthy of attention that iodine was found in the urine from twelve to fourteen days after the last dose of iodol had been administered, and it appears within a very short time after the drug is ingested.

## Miscellany.

**The late Dr. Frank W. Rockwell.**—At the last meeting of the Hospital Faculty of St. Mary's General Hospital, Brooklyn, the following resolution was passed:

The Hospital Faculty of St. Mary's Hospital desire to put on record their deep emotion at the death of their friend and colleague, Dr. Frank W. Rockwell. Dr. Rockwell died at the age of forty-six, on the very threshold of what is regarded as the intellectual prime by all civilized races. Yet he stood in the foremost rank of his profession, not only in the city of his residence, but throughout the country. That fact alone attests his intellectual stature. But those who knew him more intimately than by reputation knew that his character was a rare combination of mental qualities which compel praise and the softer ones that win without the asking. Endowed with a marvelous capacity for absorbing information, so that he was at home in every branch of his profession; with a delicacy of touch and mechanical skill as an operator that met the requirements of the best surgical *technique;* with abounding and quick resources and of excellent judgment, he had as well a gentle nature and a gentle manner, an omnivorous appreciation of humor and art and literature and the changing phases of nature. What better credentials than these can a man have to the esteem of his friends during life and to their remembrance after death? Physicians though we are, accustomed to death and disease and their ravages and surprises at every turn, a death like this comes home to our bosoms, and we can only inadequately express to the widow of Dr. Rockwell our sorrow and the infinite sympathy that we feel for her and her children.

[Signed.] William E. Griffiths, M. D., } *Committee.*
Landon Carter Gray, M. D., }

At a special meeting of the trustees of St. Mary's Hospital, held May 7th, the following preamble and resolutions were unanimously adopted:

*Whereas*, We have heard with profound regret of the sudden demise of Dr. Frank W. Rockwell, a most zealous and able member of our hospital staff, and whose untiring efforts and acknowledged professional skill in the special department of which he was chief have contributed largely toward the efficiency and wide reputation of our institution; and

*Whereas*, By the death of Dr. Rockwell, St. Mary's Hospital, which has been the recipient of his valued services since its organization, has sustained a grievous loss; the profession, of which he was a distinguished member, a high-minded, skillful, and conscientious surgeon, and the community at large a benefactor; therefore be it

*Resolved*, That, while regretfully testifying to his honorable record and unostentatious labors in the cause of suffering humanity, we deeply sympathize with his bereaved family and respectfully tender them our sincere condolence.

*Resolved*, That the foregoing be incorporated in our minutes, and a duly authenticated copy thereof be forwarded to his family.

John Byrne, M. D., }
[Signed.] John J. Kiernan, } *Committee.*
James Clyne, }

**The Maine Medical Association.**—The thirty-seventh annual meeting will be held at Portland, on Tuesday, Wednesday, and Thursday, June 11th, 12th, and 13th. The programme includes the following papers: "Prevailing Diseases of the Year," by Dr. A. G. Young, of Augusta; "Pregnancy and Operative Surgery—their Mutual Relations," by Dr. S. C. Gordon, of Portland; "Mercury," by Dr. J. A. Spalding, of Portland; "Apoplectiform Seizures; Diagnosis of the different Forms and their Treatment," by Dr. I. T. Dana, of Portland, the discussion to be opened by Dr. T. A. Foster, of Portland, Dr. O. A. Horr, of Lewiston, and Dr. D. A. Robinson, of Bangor; "Cases of Wild-Parsnip Poisoning and Remarks on the Physiological Action of the Plant," by Dr. G. A. Phillips, of Ellsworth; "The Relation of Micro-organisms to Injuries and Surgical Diseases," by Dr. E. T. Nealey, of Bangor; "Dysmenorrhœa," by Dr. A. L. Hersey, of Oxford; "Pleuritic Effusion; its Treatment," by Dr. H. F. Twitchell, of Freeport, the discussion to be opened by Dr. F. C. Thayer, of Waterville, Dr. O. A. Horr, of Lewiston, and Dr. A. K. P. Meserve, of Portland; "Eczema," by Dr. J. A. Donovan, of Lewiston, the discussion to be opened by Dr. D. A. Robinson, of Bangor, and Dr. G. H. Shedd, of Fryeburg; "The Central Maine Hospital," by Dr. E. H. Hill, of Lewiston; "Necrology," by Dr. A. K. P. Meserve, of Portland.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending May 24th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y. | May 18. | 1,566,068 | 744 | .. | .. | .. | .. | .. | .. | 6 | 25 | 44 | 7 | 12 |
| Philadelphia, Pa. | May 18. | 1,040,245 | 420 | .. | .. | .. | .. | .. | .. | 17 | 5 | 5 | 6 | 7 |
| Chicago, Ill. | May 18. | 830,000 | 283 | .. | .. | .. | .. | 1 | .. | 4 | 4 | 16 | 7 | 1 |
| Brooklyn, N. Y. | May 18. | 821,555 | 345 | .. | .. | .. | .. | .. | .. | .. | 11 | 22 | 5 | 6 |
| Baltimore, Md. | May 18. | 500,343 | 144 | .. | .. | .. | .. | .. | .. | 1 | 1 | 2 | .. | .... |
| Cincinnati, Ohio | May 18. | 325,000 | 134 | .. | .. | .. | .. | .. | .. | 3 | .. | 7 | 2 | .... |
| San Francisco, Cal. | May 10. | 330,000 | 109 | .. | .. | .. | .. | .. | | 1 | .. | 2 | .. | 3 |
| New Orleans, La. | May 11. | 254,000 | 135 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | 1 |
| Cleveland, Ohio | April 20. | 235,000 | 85 | . | .. | .. | .. | .. | .. | 1 | .. | 8 | .. | 2 |
| Cleveland, Ohio | April 27. | 235,000 | 91 | .. | .. | .. | .. | .. | .. | 5 | .. | .. | .. | 1 |
| Pittsburgh, Pa. | May 18. | 230,000 | 66 | .. | .. | .. | .. | .. | .. | 3 | 1 | 2 | 3 | .. |
| Detroit, Mich. | May 11. | 230,000 | 68 | .. | .. | .. | .. | .. | .. | .. | 3 | 2 | .. | .... |
| Louisville, Ky. | May 11. | 227,000 | 78 | .. | .. | .. | .. | | .. | 2 | . | 1 | 4 | 2 |
| Washington, D. C. | May 18. | 225,000 | .... | .. | .. | .. | .. | | .. | 2 | 2 | 1 | .. | 1 |
| Milwaukee, Wis. | May 18. | 210,000 | 58 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Minneapolis, Minn. | May 11. | 200,000 | 49 | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | .. | .... |
| Newark, N. J. | May 14. | 182,457 | 80 | .. | .. | .. | .. | .. | .. | 1 | 2 | 9 | .. | .... |
| Kansas City, Mo. | May 18. | 180,000 | 34 | .. | .. | 1 | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Rochester, N. Y. | May 18. | 130,000 | 31 | .. | .. | .. | .. | .. | .. | | .. | 1 | .. | 1 |
| Providence, R. I. | May 18. | 127,000 | 41 | .. | .. | .. | .. | .. | .. | .. | 1 | 5 | 1 | .... |
| Richmond, Va. | May 18. | 100,000 | 26 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Denver, Col. | May 17. | 100,000 | 33 | .. | .. | .. | .. | .. | .. | .. | 1 | 3 | .. | .... |
| Nashville, Tenn. | May 18. | 65,153 | 15 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Fall River, Mass. | May 18. | 65,000 | 20 | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .... |
| Charleston, S. C. | May 18. | 60,145 | 50 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Lynn, Mass. | May 18. | 50,000 | 26 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .... |
| Portland, Me | May 18. | 42,000 | 14 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .... |
| Manchester, N. H. | May 11. | 42,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Council Bluffs, Iowa. | May 20. | 35,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Davenport, Iowa. | May 18. | 33,715 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | 3 | .. | .... |
| Binghamton, N. Y. | May 20. | 30,000 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa. | May 18. | 30,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Auburn, N. Y. | May 18. | 26,000 | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass. | May 18. | 25,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newport, R. I. | May 16. | 22,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newton, Mass. | May 18. | 21,553 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Keokuk, Iowa. | May 18. | 16,000 | 4 | .. | .. | .. | .. | .. | .. | . | | 1 | .. | .... |

**The New Massachusetts Medical Practice Bill.**—The following is the text of a bill that has been reported to the House of Representatives by the Judiciary Committee:

Section 1. Every person who shall practice medicine or surgery for hire, gain or reward, within this Commonwealth, or who shall publicly profess to practice medicine or surgery, shall first file with the clerk of the city or town in which he resides and in which he has his principal office, an affidavit, duly subscribed and sworn to by him, in which he shall state his full name and residence; place and date of birth; location of his principal office; what medical college or institution, if any, he has attended, and for what length of time; what degrees in medicine or surgery, if any, he has received, and from what institutions, with date for granting of same; and of what medical societies or associations, if any, he is a member.

Sec. 2. The city or town clerk with whom the affidavit named in Section 1 may be filed shall give to such person a certificate of the filing of the affidavit, which certificate shall state the substance of the facts set forth in the affidavit, and such person shall keep such certificate conspicuously displayed in his principal office or place of practice so long as he shall continue so to practice.

Sec. 3. Whoever shall violate the provisions of this act shall be punished by fine not exceeding $1,000, or imprisonment not exceeding one year, or both such fines and imprisonment.

Sec. 4. Whoever shall willfully swear or affirm falsely in relation to any matter or thing, respecting which the affidavit is required by this act, shall be deemed guilty of perjury.

Sec. 5. The provisions of this act shall not apply to surgeons and assistant surgeons of the army and navy of the United States, nor to any physician or surgeon resident in another State and lawfully engaged in the practice of medicine or surgery there, who may be called in consultation with a physician or surgeon lawfully practicing within this Commonwealth.

Sec. 6. This act shall take effect on the first day of October, 1889.

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**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Original Communications.

# THE VALUE OF ELECTRICITY AS A SUBSTITUTE FOR LAPAROTOMY IN DISEASES OF THE UTERINE APPENDAGES.

By AUGUSTIN H. GOELET, M. D.

When we take into consideration the risk involved, coupled with the fact that the ultimate result is not always what is desired, laparotomy can by no means be considered successful or satisfactory when done for disease of the uterine appendages. Unless it affords positive relief of the symptoms which caused the presence of the disease to be detected, it can not be considered even a justifiable operation. If pain, the main symptom which drove the patient to seek relief, persists after the operation, what has been gained beyond permanent sterility? The recovery of the patient from a dangerous operation often serves to eclipse the purpose for which it was intended, and is mistaken for success, adding to the record of the successful operator, but in no way benefiting the patient. The mental impression produced upon her may serve to satisfy her for a time, until, when this subsides, she awakens to the truth that she is no better than before. The proof of this assertion is to be found in the fact that a successful laparotomist has published an elaborate paper upon the cause of pain following laparotomy. Also in substantiation is the fact that operators declare temporary improvement frequently follows laparotomy when the abdomen is only opened, inspected, and immediately closed, the condition found being unfavorable for interference. Such improvement can only be explained by the mental impression produced by the operation.

The patient is often so overwhelmed by the magnitude of the disclosure, as well as by the long list of successful (?) operations of the man who advises her, that she does not think to question the ultimate results of these operations, but consents with a sort of resignation to a fate from which she is given no choice. Nothing else having been suggested by her adviser, she argues there is no other alternative, for the principle of the laparotomist is, "If an eye offend thee, pluck it out." If the tubes and ovaries are diseased, take them out. Do not try to cure them. Take them out. The surgeon does not seek to cure (?) by any other means.

But how often do we find patients undergoing treatment after laparotomy for the relief of symptoms which it was intended to relieve—treatment which, if faithfully carried out beforehand, would have removed the apparent necessity for the operation! Would it not be wiser and more consistent with honest purpose to at least try a course of treatment which known authorities find successful and free from danger before advising an operation which is often disastrous and which promises nothing certain but mutilation and sterility? Is the surgeon justified in recommending the removal of such important, organs and in not suggesting the possibility of relief by safer methods? Is it not an obligation on his part to explain clearly the dangers and uncertainty of the one and the harmlessness and possible relief to be afforded by the other measures, instead of autocratically declaring the removal of the diseased structures necessary? Beyond a doubt there are conditions which may demand immediate operative interference to avert impending evil, but they are rare, and if laparotomy for the removal of the appendages was limited to such conditions, there would be fewer mutilated women and fewer operators.

It is high time the voice of conservatism should be raised against this wholesale useless castration, which serves only to add to the record of a few ambitious surgeons who have built up their records with high-handed—yea! bloody-handed—methods. But they have carried it too far. The key-note of conservatism has been sounded by two of the greatest living ovariotomists, and let us hope it will be heeded before the laparotomist is made to blush at the accusation of the abuse of his knife: the fate of his brother of the lancet.

Is the immediate resort to laparotomy justifiable for inflammatory conditions of the uterine appendages where the presence of pus can not be detected, when electricity promises so much with absolutely no risk? Is it rational to remove these important organs without previous efforts to relieve the diseased state, when there is no immediate danger to be apprehended in delaying operative interference? It has been said, and with some degree of truth, that there are more healthy ovaries removed than diseased ones. Hence the term normal ovariotomy, which is a blot upon the escutcheon of the profession. Frequently the ovaries and tubes are condemned when the origin and seat of the disease are to be found in the uterus, as where drainage is obstructed by a condition of stenosis or acute flexion. To remove these organs for disease which is secondary only to the condition of the uterus is certainly illogical, to say the least. Remove the cause which produces the ovarian or tubal malcondition, and that too may be curable; but remove the appendages, and you have but gotten rid of offending organs which have been more offended against than they are offending. And herein lies a solution of many of the failures following laparotomy—failures to produce an intended artificial menopause, and failures to remove pain and other symptoms which caused the patient to submit to the operation.

If it is possible to destroy a tubal pregnancy and cause its complete absorption by electricity, is it unreasonable to expect what is claimed for it in inflammatory conditions and their results? The number of women who have been saved from the knife and relieved by electricity may be insignificant in comparison with those who have been successfully laparotomized (not to say relieved), but the number is multiplying, and it is the duty of all who find success with the safer method to contribute their mite in favor of its adoption as a substitute for dangerous and unnecessary operative measures. With this view in mind I find the excuse for the present paper, which, while it may present little that is new to some, will open the eyes of many to the value of an important agent which promises much for the future.

The ignorance of the action of the electric current, associated with the fact that it has been so long used empirically or without precision by those who professed to understand it, constitutes the chief drawback to its adoption as an active therapeutic agent. Any other agent capable of so much good would scarcely be received with as little confidence when so strongly and ably advocated. But this is not to be wondered at when we stop to consider the improper uses which have been made of it by those who have sought to surround it with mystery, as well as the ignorance of its action which has pervaded the profession in the past. Now that we know definitely the different action of the two poles, and are able to measure accurately the dose, we may confidently expect to accomplish with it what was never possible before. And we owe much to Apostoli for his persistent efforts to wrest so valuable an agent from the chaos of ignorance, empiricism, and mystery with which it has been surrounded, and establish its value in a favorable and scientific light before the profession.

The value of electricity, or that form of it known as galvanism, which is under consideration here, depends much upon its proper use, which shears it of danger. Improperly used, it is not only of no value, but is capable of much harm. Is not the same true of other valuable agents? In the first place, it is necessary to thoroughly comprehend the different action of the two poles. The *positive* pole is *anodyne*, *sedative*, *anti-congestive*, and *anti-hæmorrhagic*. "It combats and prevents the tendency to excessive vascularization," and consequently relieves congestion and inflammation and the pain depending upon these conditions. Its *local* or *polar* action, when used within the uterus, is *hæmostatic* or *styptic*, and *caustic* with high intensities of current. The *negative* pole is *stimulating* and has marked *electrolytic* action. It tends to produce *congestion*, and a *derivative* effect which favors *absorption* of *tumors*, *inflammatory deposits*, and *adhesions*. But great care must be observed in using it in some conditions, lest a fresh inflammation be rekindled. When used within the uterus its *local* action is *caustic* with much lower intensity of current than the other pole, and it has a marked *electrolytic* action upon fibrous and hypertrophied tissues with which it comes in contact, and at the same time produces a derivative effect to the uterus and from the surrounding organs and structures which are in sympathy with and closely allied to that organ, and whose healthy condition depends greatly upon its proper physiological action. Consequently it is strongly indicated when menstruation is insufficient or retarded, or when the uterus is indolent and inactive, and where an obstruction, either from flexion or hypertrophy of the lining membrane, interferes with the flow.

To briefly recapitulate, the *positive* pole is *sedative* and the *negative* is *stimulating* in the general effect upon the organs or structures through which the current traverses, while in the local effect the *negative* is more strictly *caustic*, because requiring less current strength to produce this action. But in truth both are caustic, though in a different way and with different results.

An intelligent interpretation of the indications for these different actions forms the basis of electrical treatment, and the operator must constantly bear them in mind. Much latitude is allowed for good judgment, and experience will greatly increase one's ability for accurate decision. And prompt results as well as freedom from unpleasant consequences depend much upon the operator's skill and experience. No one should attempt its application in gynæcology without having previously made a careful clinical study of its effects upon the different conditions of disease of the pelvic organs. In this way alone can its value be determined and its future usefulness advanced; *for failure from improper use is more likely to be attributed to the inefficiency of the agent than inexperience in manipulation.*

In the second place, exact dosage is an all-important factor in the administration of electricity, for, without the means of measuring the intensity of the current, one would find himself very much in the position of a country practitioner who wanted to give his patient strychnine and had no scales to weigh it. The necessity for an instrument which will measure accurately the amount of current passing between the two poles can not be overestimated, for the number of cells used, which for a long time constituted our only means of deciding the amount administered, is inaccurate, because no allowance is made for the resistance to be overcome in the traversing of the current. It must be taken into consideration that the strength of a battery deteriorates with use, and the resistance the current encounters in penetrating the skin and tissues is different in different subjects. While very much depends upon the susceptibility of the patient, and what one may bear well another will not submit to, and although much is left to be determined by experience with its use, precision in posology has an important bearing upon the safety of the patient, as well as the advantage to be gained by accuracy from a scientific point of view. Although it is not always possible to determine previously the exact dose required to accomplish desired results in every patient, it is important to record accurately the amount used in every instance, in order to arrive at a satisfactory conclusion of what we may accomplish by its future use. While the milliampèremeter is still open to objections on account of slight inaccuracies and variance of different makers, it furnishes the best guide we have at present, and answers every purpose. I have been forced to the conclusion, however, that either the French instrument is gauged differently from ours or else the American women are capable of less endurance, for they are not always able to bear well the high intensities of Apostoli. The meter would be important, if for no other reason, to show that the battery is working properly and the patient is not deceiving you as to her impressions.

There are many important minor details in connection with the administration of electricity which deserve close attention.

1. The inactive or external electrode should cover a large surface, both in order to obtain a greater intensity of penetration and to avoid discomfort to the patient, and it should be made of such material as will offer the least resistance to the current, and at the same time the metal should be so protected as to prevent any unpleasant action on the skin. The cake of wet clay recommended by

Apostoli is the best which has yet been devised. The objections which have been made to it may be readily overcome. The large size need not be used except where very high intensities are desired, and smaller sizes may be appropriately and conveniently substituted. By using the white clay, it will not soil if properly protected. The clay, when mixed to about the consistence of putty, should be rolled out evenly on a flat surface until it is from one half to three quarters of an inch thick, according to the size of the electrode, cut of the desired size, and allowed to stiffen somewhat, so that it may be more readily handled. If it is then covered with a layer of absorbent cotton, sewed up in linen crash and backed with rubber cloth which projects only slightly beyond the edges, it may be applied to the surface without soiling or wetting the clothing. The metal disc is pressed into the clay under the cotton, and the binding post must penetrate the different layers. A large flat pan, with only enough water to cover the bottom, should be kept warm over a spirit lamp, and the electrode is immersed in this just before using it, the excess of water being pressed out. Besides the advantage of cleanliness, the cotton covering serves to keep the clay moist while not in use. The illustration, Fig. 1, shows this electrode, the size being 6 x 8.

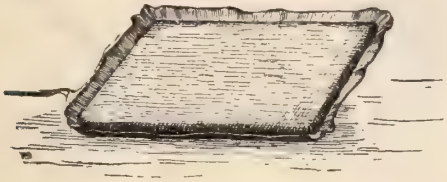


Fig. 1.

The most convenient sizes besides this one are 4 x 6½, 6½ x 9, and larger when desired.

2. The position of the inactive electrode may not be confined to the abdomen, but in some conditions can be applied with equal benefit to the lower part of the spine with the patient in the Sims position.

3. The internal electrode for use in the vagina was for a long time unsatisfactory to me on account of the cauterization of the vaginal surface with high intensities, especially when the positive pole was used. The usual covering of absorbent cotton or chamois skin will not allow the use of sufficient current to be effective in many conditions without producing deep cauterization. I believe I have satisfactorily overcome this objection by covering the metal with clay, as described in the "New York Medical Journal," February 23, 1889, page 206. I use for the negative pole a small flat copper disc in place of the usual ball electrode, and cover this with a thick layer of potter's clay. This is allowed to harden so it will retain its position, and is then covered with a thin layer of absorbent cotton, and over this a piece of gauze held in place by a rubber band around the shaft of the electrode. (See Fig. 2.) This may then be kept moist, and, when it is to be used, it is covered additionally with absorbent cotton and well moistened. When once used, the outer layer of cotton is removed and replaced with fresh cotton for every patient.

With this electrode it is possible to use currents of from 60 to 150, and even 200 milliampères, with no more effect upon the surface of the vagina than on the external surface of the body, and effective intensities may thus be concentrated upon any desired location in the pelvis accessible through the vagina without fear of injury. This is an advantage which will be readily appreciated by those who have had any experience in this kind of work. In diseases of the appendages it is possible to accomplish by this method of applying electricity what could never be attained before. When we take into consideration that it is the interpolar action alone which we have to depend upon in many of these conditions, it is important to get the greatest intensity permissible concentrated upon the structures to be acted upon.

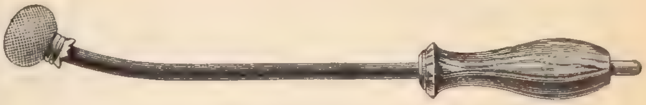


Fig. 2.

For use with the positive pole I have had the disc made of aluminium, but, after prolonged use with strong currents, some action takes place on the surface of the aluminium which interferes with its conductibility, and for this reason I have had the electrode, shown in Figs. 3 and 4, made with a carbon disc instead of metal. It will be seen by examining the two cuts that the carbon disc has a long spindle for connection with the metallic rod of the handle, which is an inch or more from the disc, and a hard-rubber insulating slide, which, when it is pushed up against the disc, fits the spindle of the carbon snugly and prevents it from being easily broken off. The metallic connection with the carbon is so far removed from the extremity of the electrode that it does not become moist and corroded. But there is some objection to the use of carbon, in that it is so good a conductor that it requires an additional protection to prevent cauterization when used with the positive pole with high intensities. In preparing it for use I first cover the carbon disc with a layer of plaster of Paris, then with the clay, etc. This additional protection assists in modifying the local action. When very high intensities (100 to 150 milliampères) are used for five minutes or longer, I take the precaution to dip the electrode into a solution of bicarbonate of sodium, which I find neutralizes the acids which collect at the surface of contact of the positive pole and prevents the usual caustic action. A point worthy of mention is the fact that the local action is intensified in proportion to the conductibility of the electrode. Another point which does not ap-

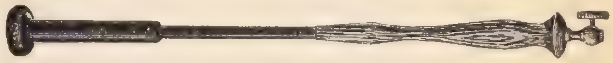


Fig. 3.

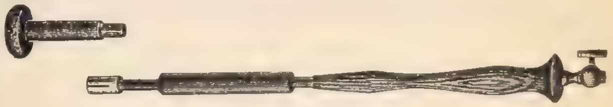


Fig. 4.

pear to be generally known is that while the negative pole is the more caustic with an unprotected metal or carbon electrode in the uterus, the positive pole is the more caustic with the protected electrode used in the vagina.

Recently I have made some very satisfactory experiments with electrodes made of steel, treated by a process which renders the metal absolutely non-corrosive and non-attackable by acids. It may be used for the same purposes as platinum, is a better conductor, and the cost is trifling. I have had the discs for vaginal electrodes made of it, intra-uterine electrodes, and puncture needles. The intra-uterine electrodes show no action after constant use with from 50 to 100 or 150 milliampères (positive). The puncture needles have been used with 300 milliampères (positive) with little or no effect upon the surface of the needle, and none which interferes with the passage of the current. The electrodes as well as needles may be used with either the positive or negative pole.

4. For the sake of convenience hereafter I will show and describe here some other electrodes which I have devised for use in the method of treatment under consideration.

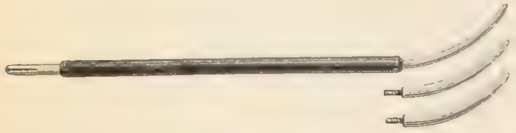


Fig. 5.

Fig. 5 is an intra-uterine electrode for use with the negative pole. It has an insulated handle of hard rubber, and three movable tips of copper, nickel-plated, 13, 15, and 17 of the French scale. They are two inches and a half long, conical, and of the usual curve. It is used for applications of negative galvanism to the cervical canal and uterine cavity, and has been found to be more convenient, more easily introduced, and to cause less discomfort to the patient than the usual intra-uterine electrode, especially the bulb.

Fig. 6 represents an intra-uterine electrode for use with the positive pole. The metallic tip, A, is made of steel treated by the process described above, and is three fourths of an inch in length, the shaft, B, being covered with hard rubber. With this the uterine cavity, exclusive of the cervical canal, can be cauterized in two sections. The sizes run from 12 to 16 of the French scale. The tips are also made two inches and a half long, so that the application may be made to the whole canal at once when it is desired, the usual size being a little larger than the ordinary uterine sound. This electrode may be used with the negative pole as well.

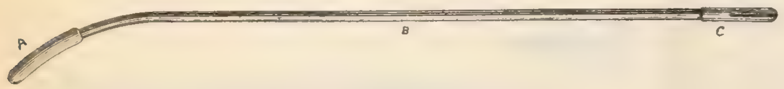


Fig. 6.

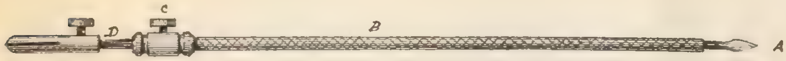


Fig. 7.

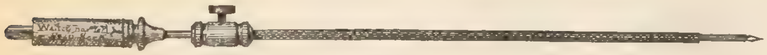
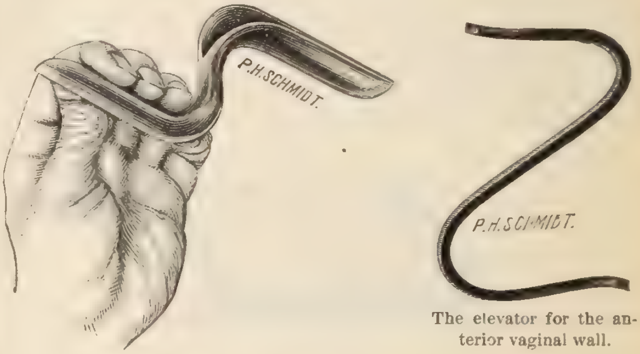


Fig 8.

The small puncture needle shown in Fig. 7 consists of a point, A, made of either platinum or protected steel, on a steel shaft, D, insulated with hard-rubber covering. Over this is placed a slide, B, of catheter material fitted with a set screw, C. By this arrangement the degree of penetration may be limited and accuracy in puncture assured.*

Fig. 8 is a small aspirating cannula with a trocar, made so that it can be utilized as an electrode through the cannula. It is made of steel protected by the process referred to above, and is therefore available for use with either pole for cauterizing a drainage track after aspiration. It is made to fit the attachments of the aspirator or the surgical pump, and has the sliding cover and set screw to limit penetration.


P.H.SCHMIDT.
P.H.SCHMIDT.

The elevator for the anterior vaginal wall.

The speculum. Fig. 9.

5. The necessity for a speculum to facilitate the introduction of both vaginal and intra-uterine electrodes was fully set forth in a paper published in the "New York Medical Journal" of February 23, 1889, page 205. The cut (Fig. 9) shows this speculum, which is now made either of metal or hard rubber. The advantages of this speculum are, viz.:

1. That it may be used in either the dorsal or lateral positions and with equal facility whether a nurse is present or not.
2. Vaginal electrodes may be introduced and withdrawn with no discomfort to the patient and without soiling the hand of the operator.
3. Intra-uterine electrodes may be introduced with greater ease, more precision, and less risk than upon the finger as a guide.
4. The position of the cervix may be as readily altered in the dorsal as in the lateral position, which is not possible with bivalve or trivalve instruments.
5. When the hard-rubber instrument is used the necessity for removal of the speculum during an application is avoided.

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* The electrodes (Figs. 1, 2, 6, 7, and 8) were made for me by Messrs. Waite and Bartlett. Figs. 3, 4, and 5 were made by "The Jerome Kidder Manufacturing Company."

6. It is self-retaining in both positions when the beak is behind the cervix.

7. When used in the lateral position it is more convenient than the Sims instrument, and will retain its position when the support of the hand is removed.

8. With the elevator for the anterior vaginal wall, it is a perineal retractor for the dorsal posture, acting upon the same principle as the Sims instrument with the depressor.

9. The elevator used alone forms a convenient guide and shield in passing the needle for galvano-puncture.

The conditions of the appendages which may be considered amenable to treatment by galvanism are the different varieties of subacute and chronic oophoritis and salpingitis and neoplasms, hypertrophies, indurations, and adhesions resulting from inflammatory action, and we may include certain conditions of hydrosalpinx, hæmatosalpinx, and pyosalpinx. Small cysts and fibro-cysts of the ovary and in the broad ligament may likewise be included.

The failures in the past with this agent may be readily accounted for by ignorance of its action and lack of precision in posology, as well as the limited strength of current which the improperly protected electrodes permitted. When high intensities can be employed with perfect safety and comfort, very much more can be accomplished than has heretofore been thought possible, for many conditions which remain unacted upon, or but little so, by smaller, yield readily to larger doses when the agent is appropriately administered. The reason for this is obvious, for we must depend entirely upon the interpolar action of the current in conditions where puncture is not available. But it is important to confine the current as much as possible to the structures to be acted upon, instead of dispersing it over a large surface; and to accomplish this the external electrode should be limited in size as much as the sensations of the patient will allow, and must be so placed that the structures under consideration shall be immediately interposed between the two poles. Electricity may take the most direct course in passing from one pole to the other, but, if the external electrode is spread over the whole surface of the abdomen, some of the current is dispersed through tissues which do not require its action, and much of the effect is lost. Then, if the treatment is intended for the left side of the pelvis, confine the current to that side if you desire its full benefit. Place the internal electrode directly against the structures as felt in the vagina, and the external electrode either on the abdomen or back, in a position most suitable for including them between the two poles.

A detailed description of the method of procedure necessary in all the diseases of the appendages which may require this treatment would be beyond the scope of this paper, and I must confine myself to a few essential points, trusting to the reader's comprehension of the principles involved and his thorough acquaintance with the nature of the structures under consideration.

The rule is in most cases to use the positive pole in the vagina until all pain and inflammatory action have been subdued and until the vaginal vault is not sensitive to ordinary pressure, using from 30 to 100 milliampères from five to ten minutes every day or every second day, according to the susceptibility of the patient and the condition present. Then the negative pole follows where it is needed for its electrolytic, absorptive, and alterative tonic action. But the pain produced by pressure of an accumulation or deposit, adhesions, and contraction, must be distinguished from that due to congestion or that of neuralgia. In these conditions the negative pole is more appropriate, as it tends to remove sooner the cause which produces it. If the pain is very troublesome, however, much relief is afforded by moistening the positive electrode with a four-per-cent. solution of cocaine, and using from 30 to 50 milliampères at first, increasing cautiously as the endurance and improvement become manifest. I do not wish to be misunderstood in regard to the use of the high intensities which I have advocated in some of these conditions. All do not require it, and some will not tolerate it; but there are conditions which demand it, and which will not yield to anything less. Usually the toleration of the diseased structures of the pelvis is what the operator chooses to make it if he wisely uses judgment in his selection. Commencing with low intensities, which produce no discomfort other than a warmth of the surface under the external electrode, and gradually increasing at every séance, taking care never to use enough to produce pain or an aching internally, tolerance may be increased, and the high intensities, when reached, produce no more discomfort or disturbance than the others did at first. If there is a tendency to over-menstruation, the intensity must be lowered as the period approaches, and after its cessation lower intensities must again be employed at the first sittings. It is often better to use the positive instead of the negative pole both immediately before and after menstruation, especially when it is accompanied by congestive or neuralgic pain. And if the flow is insufficient, a mild faradaic current with the negative pole in the uterus will increase it, and afford relief by lessening congestion.

When obstruction in the cervical canal is found, treatment must begin with dilatation to secure drainage either with the steel dilator under an anæsthetic, followed by the use of the perforated intra-uterine stem (see "New York Medical Journal," May 12, 1888) for a week with the patient confined to bed (bearing in mind the contra-indications), or by means of the electrode (Fig. 5) with the negative pole. Then the condition of salpingitis or oophoritis depending upon this cause must receive appropriate treatment. The applications are mainly intravaginal, the active pole being placed directly against the abnormal structures, and the intensity may vary from 30 to 100 milliampères. But the os must be kept patulous by an occasional application of negative galvanism, and positive galvanism (30 to 100 milliampères) to the fundus or whole uterine cavity will be indicated if the leucorrhœa is persistent.

Where there is an occlusion at the proximal end of the tube with pyosalpinx, I have frequently been able to evacuate it into the uterine cavity, and secure permanent drainage, by using the electrode shown in Fig. 6, with the small metal tip applied to the cornu of the cavity at the entrance of the tube, using 100 milliampères positive galvanism for five minutes at intervals of two or three days. In one case three such séances accomplished this result. About an ounce of pus followed the withdrawal of the electrode, and the patient experienced immediate and permanent relief. There was a purulent discharge for some days after, showing that drainage was good; and there was no reaccumulation of pus. When evacuation can not be secured in this way, I tap the tube through the vagina with the trocar and cannula shown in Fig. 8, empty it with the aspirator, wash out the cavity with a saturated solution of hydronaphthol, reintroduce the trocar, and, connecting it with the positive pole, turn on 50 or 100 milliampères, thus cauterizing a drainage track through the tissues which the cannula penetrates. The absorption of septic material is prevented by this cauterization, and the walls of the sac are stimulated to contract. The vagina is dusted with powdered boric acid and a moist absorbent cotton or gauze tampon is introduced to favor drainage, care being taken to arrange it so as to hold the cervix away from the vaginal wall, which would otherwise prevent drainage by closing the orifice. It is important to render the vagina perfectly aseptic before the puncture is made. Conditions may exist which would contraindicate both of these measures, and they must be removed before such procedures are justifiable.

Hydrosalpinx may be evacuated in the same way, using either negative or positive galvanism afterward through the cannula. The cavity will not require washing unless the fluid shows some admixture of pus. If the tube refills, which is rare, after it has been evacuated in this way, it is an easy matter to tap it again. The thickened condition remaining must be absorbed by applications of negative galvanism to the vagina after the soreness which follows the puncture, has been removed.

Hæmatosalpinx, when seen early, must be treated with positive galvanism (intravaginal) until the clot becomes firm; then it is absorbed by negative galvanism or galvano-puncture. Recovery may be hastened by evacuating the separated serum, if the accumulation is large, with an aspirating needle, using 50 to 100 milliampères positive galvanism (intravaginal) immediately after, to contract the capillaries and prevent further hæmorrhage.

Hæmatoma and hæmatocele, which are sometimes met with in connection with these conditions, must be treated in the early stage by positive galvanism to control and limit the hæmorrhage, and later by negative galvanism to promote its absorption. When the serum becomes separated, the aspirator may be used to remove it, followed immediately by positive galvanism, and later by negative galvanism or galvano-puncture to hasten absorption.

Inflammatory conditions of both tubes and ovaries must be treated first by positive galvanism through the vagina, commencing with small doses (20 to 30 milliampères) and gradually increasing the intensity to 100. Subsequently, negative galvanism used in the same way may be required to complete the cure.

Catarrhal salpingitis must be treated by keeping the cervical canal free for drainage, and positive galvanism to the entrance of the tube (intra-uterine), with either positive or negative galvanism (intravaginal) as the condition demands.

Pelvic exudations, adhesions, and contractions of long standing can only be attacked successfully by high intensities. The solidified, immobile condition resulting from pelvic peritonitis or cellulitis may be satisfactorily overcome and perfect mobility of the pelvic organs restored in many instances by patience and high intensities judiciously used. I have found that a current of 200 milliampères is well borne when gradually attained, and is speedily productive of satisfactory results. The gentle pressure from a vaseline tampon after the applications, conjoined with massage, will materially aid in effecting the desired result.

Cysts and fibro-cysts in the broad ligament or of the ovary, when small and accessible through the vagina, are successfully treated by galvano-puncture, followed by negative galvanism (intravaginal) to remove indurations and adhesions.

The advantage in favor of this method of treatment is that it does not, as a rule, confine the patient to bed, and that with ordinary care it involves no risk of life. She is able to go to the physician's office for treatment, thus getting all the benefit to be derived from fresh air, exercise, and diversion, which will be of great service in certain nervous conditions, frequently associated with this form of disease. The only restriction necessary is the avoidance of exercise for several hours after the application to insure the best result. Galvano-puncture should be looked upon in the light of an operation and judgment must be used in the subsequent management. Sometimes it may be done at the office, and the patient sent to her home in a carriage; but in some conditions the patient should be put to bed immediately after, and kept there until all unpleasant symptoms have subsided. In some instances the patient is found in bed, and she must be treated there. In certain conditions no conservative treatment would be justified unless the surroundings of the patient were such as to permit laparotomy at a moment's notice, should this become urgently necessary in the course of the treatment.

Anæsthetics should be used with galvano-punctures when necessary to prevent unpleasant shock, but they are not always called for. It is important to warn patients that relief of symptoms is not always an evidence of complete cure, or they may be tempted to discontinue treatment too soon.

The subjoined notes of cases, which have been selected from among many others in my case-book, is evidence of what may be accomplished with galvanism in conditions which have been thought only amenable to laparotomy for removal. My diagnosis in some of these cases may be questioned, and I frankly confess I have no means of substantiating it, but the fact remains that the symptoms and physical signs upon which alone we must depend for a diagnosis have been removed, and the patients have been restored to health and a life of usefulness.

Case I.—Mrs. T., aged twenty-six. Severe pelvic pain referred to left side; profuse leucorrhœa; prolonged and painful menstruation. Diagnosis: Pyosalpinx of the left side. Laparotomy advised at Woman's Hospital. Treatment: Tube emptied into the uterus by applications of positive galvanism to the left cornu of the cavity. Intravaginal 'applications afterward completed the cure. Duration of treatment, four months. Complete relief of pain followed the removal of the pus from the tube. At the end of the treatment she had completely regained her health. Menstruation was normal, and symptoms relieved.

Case II.—Mrs. M., aged thirty-three. Acute pelvic pain referred to the right side produced by exertion of any kind. Profuse purulent leucorrhœa, which is intermittent. Diagnosis: Pyosalpinx with chronic pelvic cellulitis and fixation. Laparotomy had been strenuously advised by a prominent specialist. Treatment: Intravaginal galvanization. Tube tapped through the vagina, and galvanism used to secure drainage. Intra-uterine positive galvanization rendered the tube pervious. Duration of treatment, six months. The recovery has been permanent. The drainage after the galvano-tapping was good, and tube did not refill.

Case III.—Mrs. P., aged twenty-four. Dysmenorrhœa with scanty flow, confining her to bed. Backache and dragging pain mostly on left side of the pelvis on the slightest exertion. Diagnosis: Oophoritis with hydrosalpinx; anteflexion. Laparotomy had been advised. Treatment: Tube tapped through the vagina; two ounces of straw-colored fluid withdrawn. Galvanization of the track. Negative galvanism to the canal and positive galvanism to the vagina. Duration of treatment, four months. Dysmenorrhœa and other symptoms entirely relieved; flow natural. The tube did not refill. Flexion overcome. Complete restoration to health.

Case IV.—Mrs. D., aged thirty-five. Backache and pelvic pain produced by walking or standing. Prolonged menstruation. Profuse purulent leucorrhœa following menstruation. Sterility. Diagnosis: Chronic salpingitis; hypertrophy of the tubes; fullness in broad ligaments; hypertrophy of the uterus, with anteflexion. Treatment: Flexion overcome by negative galvanism to the canal and free drainage secured. Galvanism to the uterine cavity and vagina. No pessary. Vaseline and boric-acid tampons. Duration of treatment, five months. The patient was not regular in her attendance, or the cure might have been accomplished sooner. She was discharged cured at the end of five months, but has not become pregnant.

Case V.—Mrs. C., aged twenty-three. Constant pelvic pain, confined mostly to the right side, with backache, bearing down, and inability to ride or walk. Dysmenorrhœa, which confined her to bed for ten days. Leucorrhœa profuse. Diagnosis: Chronic salpingitis, with oophoritis of both sides. Threatened abscess on right side. Complete fixation of pelvic contents. Laparotomy advised by Dr. C. C. Lee. Treatment: Intravaginal galvanization, with cocaine and soft, dry tampons. Duration of treatment, three months. After three months' treatment all pain and local distress were entirely relieved, as well as the dysmenorrhœa and leucorrhœa, and she could walk or ride without discomfort. Uterus partially movable. She removed to another city, and refused further treatment because she thought it unnecessary. The good result has remained permanent for two years.

Case VI.—Mrs. S., aged thirty-two. Severe and constantly increasing dysmenorrhœa confining her to bed; intense backache, with pelvic pain referred mostly to right side; profuse leucorrhœa; dyspareunia. Diagnosis: Stenosis, with anteflexion of the uterus; oophoritis and catarrhal salpingitis of right side. Treatment: Dilatation after my method. Intra-uterine and intravaginal galvanization. Tampons, but no pessary. Duration of treatment, three months and a half. Perfect restoration to health. Dysmenorrhœa, pelvic pain, backache, and leucorrhœa permanently relieved. Uterus normal. Previous to treatment her backache was so severe that it had been diagnosticated and treated for spinal meningitis by a prominent specialist in nervous diseases.

Case VII.—Mrs. A., aged thirty. Pain and dragging in pelvis (right side mostly) on walking or standing, with backache and leucorrhœa. Diagnosis: Catarrhal salpingitis, with fixation of pelvic contents. Treatment: Positive galvanism, 50 milliampères to 100 milliampères, intra-uterine, to entrance of tube. Positive followed by negative galvanism to the vagina, 50 milliampères to 200 milliampères. Duration of treatment, six months. At the end of the time stated all symptoms were removed and she was restored to health. Uterus movable. A small fibro-cyst, connected by pedicle with uterus, was discovered in the left broad ligament and removed by galvano-puncture during the course of the treatment.

Case VIII.—Mrs. J., aged twenty-eight. Intense pelvic pain, menorrhagia, and metrorrhagia, with leucorrhœa. Constant pressure on the rectum and painful evacuations, with profuse mucous discharge from the rectum. Diagnosis: Hæmatoma in left broad ligament, with another posterior to the uterus low down, occurring while she suffered from a salpingitis. Treatment: Positive followed by negative galvanism, intravaginal, 50 milliampères to 100 milliampères. Negative galvano-puncture in each place, 50 milliampères, at a week's interval. Duration of treatment, two months. Complete absorption; menstruation normal and remaining so. All symptoms relieved.

Case IX.—Miss S., aged twenty-five. Severe pain in ovarian regions preceding menstruation; dysmenorrhœa; backache following the flow; leucorrhœa; headache and hysterical attacks during menstruation. Diagnosis: Retroflexion producing obstruction; oophoritis. Treatment: Dilatation, pessary, and positive galvanism, intravaginal, with an occasional application of negative galvanism, 20 milliampères to 30 milliampères, to the canal. Duration of treatment, two months and a half. Complete relief of symptoms. Menstruation normal. Pessary was removed two months after treatment was discontinued. The uterus retained its normal position.

Case X.—Mrs. H., aged thirty-eight. Pelvic pain, sciatica, sacralgia, menorrhagia; leucorrhœa, dating from an attack of pelvic inflammation two years previous. Diagnosis: Chronic pelvic cellulitis, with induration and fixation. Treatment: Negative galvanism, intravaginal, 50 milliampères to 200 milliampères. Positive galvanism, intra-uterine, 50 milliampères to 100 milliampères. Duration of treatment, three months. Complete absorption of deposit and relief of symptoms. Uterus movable.

Case XI.—Mrs. B., aged thirty. Leucorrhœa; weight and dragging pain on walking or standing. Diagnosis: Fibro-cyst in left broad ligament, of the size of an egg. Treatment: Negative galvano-puncture, four times, of 100 milliampères each. Duration of treatment, two months. Two months after treatment ceased nothing abnormal could be found in the pelvis.

Case XII.—Mrs. C., aged twenty-eight. Dragging pains in pelvis; irritability of the bladder; pain on right side, of a dull, uneasy kind. Diagnosis: Cyst of right ovary, of the size of a kidney. Treatment: One negative galvano-puncture, of 150 milliampères, was followed by a discharge for ten days. Duration of treatment, one month. Three weeks after the puncture no trace of the cyst could be found.

243 West Fifty-fourth Street.

**The American Public Health Association.**—The local executive committee, for the meeting to be held in Brooklyn, in October, consists of Dr. J. H. Raymond, 173 Joralemon Street (chairman), Dr. R. M. Wyckoff, 532 Clinton Avenue (secretary), Dr. C. N. Hoagland, Dr. A. N. Bell, Dr. Stephen Smith, Dr. John Griffin, H. C. Du Val, Esq., Dr. F. H. Colton, Dr. R. C. Baker, and Dr. J. L. Moffat.

# SEPTIC POISONING IN EARLY LIFE.*

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THE extreme susceptibility to septic infection exhibited in early life is recognized by those who are called to treat disease at this time. This tendency is analogous to that shown toward the germ-poisons which are supposed to cause the various specific diseases. Young protoplasm affords a virgin soil for the growth of microbes, and the active circulatory and lymphatic systems will readily carry a developing virus to all parts of the organism. A division may be made into the septic poisoning occurring in the new-born and that which is seen in older infants and young children. Infection may even take place before birth by the passage of septic matter from the mother to the fœtus through the medium of the placenta. In such a case the infant may be still-born, or succumb a few hours after birth, without presenting any marked local changes, but followed by a rapid decomposition of the body. When a woman is in a septic condition the virus may act to the destruction of the fœtus, just as in the case of a syphilitic woman. As it is not common, however, for septicæmia to develop in the mother before the birth of the child, the fœtus is not so apt to be disturbed by septic influences. After birth, the vulnerable point for the entrance of septic poison is the umbilicus. When the cord is tied, the blood remaining in the umbilical vein forms small thrombi, which eventually become calcified, thus constituting part of the structure known as the round ligament. Owing to its exposed position, pyogenic germs may gain access to these thrombi, when suppuration and septic infection will quickly follow. Dr. J. L. Smith, in a communication on sepsis of the new-born read before the Pædiatric Section of the Academy of Medicine, divides infection at the umbilicus into two groups of cases: (1) those in which the poison enters the system from an umbilical sore and is conveyed by the lymphatics; (2) cases in which the septic poison gains access through the umbilical vein. As the latter vessel is somewhat pervious and is not in an internal and protected position like the ductus arteriosus and ductus venosus, the wonder is that infective inflammation is not more frequently set up in it. When this accident takes place, there will be more or less oozing of purulent fluid from the vein, soon followed by symptoms of peritonitis, erysipelas, pleurisy, or other evidences of systemic infection. Doubtless in many cases the lymphatics carry the infection after the vein has been completely closed by an obliterating endarteritis. The umbilical fossa, with its denuded epithelium, affords a convenient receptacle and favorable spot for the absorption of septic material from a diseased mother—from dirty hands, infected linen, sponges, or the air.

There has come under my observation a case where an infant was born healthy, but the mother contracted septicæmia. When the infant was three days old it began to show symptoms of peritonitis, although the temperature was not high. At five days the general blush of erysipelas appeared upon the surface of the body, followed in a few hours by death. At the autopsy there was a red discoloration over the body and extremities, more noticeable over the legs and thighs and at the axillæ. The abdomen was tense and swollen, with no projection of the cord above the surface. The peritoneal cavity contained about eight ounces of fluid, red in color and holding flakes of lymph in suspension. Between the skin and peritonæum, in the region of the cord, was a circumscribed abscess through which the vein passed. The sheath of the vein was involved, the inflammation extending into the peritoneal cavity to the liver, the surface of which was covered by a thick layer of lymph. There were no signs of suppuration in the vein itself, nor could any communication with the surrounding tissues be found. The inflammatory process seemed to be greatest at the navel, extending to the liver and then becoming diffused. The intestines were matted together by the fibrinous exudation. The lungs contained a few patches of broncho-pneumonia, and there was considerable bronchitis.

Any abrasion or accidental wound may likewise afford en entrance to septic poison at or shortly after birth. The forceps may be responsible for the necessary solution of continuity. The delicate epithelium of the genital organs, without any apparent break, may give access to septic matter.

A female infant came under my observation who was born perfectly healthy. The mother had sore throat and some temperature, but no other evidences of septicæmia. When four days old the baby began to fail, and at five days there was some swelling of the abdomen and pain on pressure, with a slight rise in temperature. On the morning of the sixth day erysipelas appeared at the vulva and both groins, spreading up on the abdomen, but not as far as the umbilicus, and down both thighs to the knees. Death occurred in the evening. At the autopsy there was a bluish-red discoloration of the erysipelatous surface, which failed to disappear on pressure, but not reaching the navel, which appeared healthy. The peritoneal cavity contained about four ounces of turbid, yellowish, viscid fluid, holding in suspension flocculi of lymph. The parietal and visceral peritonæum was coated with a moderately thick layer of fibrin, particularly well marked over the upper surface of the liver and over the spleen, but present in the pelvis and everywhere over the peritonæum. The cerebro-spinal fluid over the occipital lobe and at the base of the brain was stained with blood.

Dr. P. Müller, in Gehrhardt's "Handbuch," states that erysipelas or phlegmon, starting from the extremities or genitals in the new-born, is probably produced by small wounds following birth that furnish points for absorption of septic poison. Any possible injury that may be received during parturition may thus favor the development of septic diseases. After a certain interval of time has elapsed, and the infant has passed safely through the vicissitudes attendant upon and following parturition, there is still a considerable liability to septic poisoning. During early infancy the genitals and umbilicus are still vulnerable points. This was well exemplified in a case I recently saw in consultation.

An infant, four weeks old, with a good family history, had severe convulsions during three consecutive days, when a slight redness and induration appeared over the pubes. There was a badly arranged, uncleanly compress over the umbilicus, which presented an irritated appearance. The penis and scrotum soon became red and œdematous, and erysipelas was well marked, with a distinct line of demarkation half way between the pubes and umbilicus. This was followed by some retention of urine and renewed convulsions. The disease gradually abated under vigorous treatment, and in a week the infant had recovered.

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* Read by title before the Medical Society of the State of New York at its eighty-third annual meeting.

In this case the source of infection was the genitals, but, if cleanliness and antisepsis had not been employed, the umbilicus would soon have become likewise inflamed. Erysipelas in very young infants is not so very uncommon, and, as it is a very dangerous disease, great care should be taken to guard against all sources of septic infection. As the infant grows older, the upper part of the body, particularly the scalp and mouth, afford vulnerable areas for sepsis. The lymphatics of the head and face are numerous and active, and are thus ready to quickly absorb any poison that may present itself. The blood-supply to these parts is also abundant, which favors inflammatory conditions. With reference to the action of the absorbed poison, a division may be made into local and general sepsis. When suppuration is started upon a surface by pyogenic germs—such as the *Staphylococcus* and *Streptococcus pyogenes*—the lymphatics beneath soon participate in the inflammation. Both the germs and their products of various poisonous principles are absorbed into the lymphatic tracts, and, if they reach the blood in sufficient quantity, will cause a general poisoning. Protoplasmatic cells, by their inherent vitality, can dispose of and destroy a certain number of germs. If the latter are produced quicker or in larger numbers than they can be taken care of by the cells of the adjacent lymphatic glands, the poison will soon find its way into the system. In what may be called local sepsis a certain number of neighboring lymphatic glands are irritated and inflamed by absorption of the poison, which does not, however, find its way into the general circulation in sufficient quantity to produce any very marked symptoms. The commonest example of this is impetiginous eczema of the scalp, more particularly in connection with pediculi. The pus thus produced is unusually irritating, and quickly leads to infection of the neighboring lymphatic glands. Its infective nature is further shown by pustules on various parts of the body, where the poison has been carried by the child's finfier-nails. Peculiar pustular eruptions may go through a neighborhood by one child infecting another by means of the pus accompanying pediculi. This may sometimes be mistaken for an epidemic of impetigo contagiosa.

Any enlarged or inflamed condition of the lymphatic glands about the head or neck should lead to a very careful examination of the scalp, as a very few pediculi and one or two small points of suppuration may give rise to the mischief.

I have recently treated a girl of seven years who had been perfectly healthy until her mother noticed a swelling beginning on the left side of the neck which was thought to be mumps. The child looked pale and unhealthy. This continued for three weeks, the swelling growing slowly larger, when she was brought to the dispensary. A careful examination revealed several points of suppuration upon the scalp and a few pediculi. As an abscess had formed in the neck, it was opened, and appropriate treatment applied to the scalp. The girl recovered her usual health when the source of infection was removed, and the lymphatic enlargements soon subsided.

The mouth affords very favorable conditions for the growth and development of microbes of all kinds. Where suitable cleanliness is not observed there is no cavity of the body that can become fouler in a short time. With its many crevices and corners ready to lodge decomposing food, a free access of air and suitable warmth and moisture, it would seem to be a typical place for bacterial culture. Certain forms of stomatitis, especially the aphthous and ulcerous, are often accompanied by evidences of poisoning. When the aphthous patches separate, the small ulcers left afford a favorable entrance for septic matter. In these cases the enlarged and painful submaxillary glands, with frequently involvement of the glands of the neck, are evidences of such infection. The pain and distress accompanying many cases of stomatitis, together with the constitutional symptoms, can hardly be explained by a simple inflammation of the mucous membrane. We may arrive at a satisfactory account of all the disturbance by considering that the neighboring tissues are being infiltrated by septic matter. Many cases of local sepsis in the mouth are due to diseased teeth. Septic matter may be lodged about the roots of the teeth, which, when carious, will afford a means of absorption into the blood. In some young children the teeth appear to be cut in a decayed condition.

I have recently seen an infant of nineteen months in whom dentition began at six months. Although otherwise apparently healthy, the upper teeth came in black and quickly decayed. They produced no disturbance until recently, when the infant became feverish and restless and the upper gums and face began to swell. An examination revealed small sloughing ulcers around the stumps of the lateral incisors, with a general stomatitis. The glands on both sides of the neck were enlarged and painful.

In this case the source of infection was plainly the ulcerated gum about the decayed teeth. There are other avenues that may be noted as affording an entrance to septic matter, such as the nose and ears. Certain forms of nasal catarrh, and otorrhœa in conection with otitis media purulenta, may be responsible for the infection. In any case of lymphatic enlargement, with other evidence of local poisoning, the original source of suppuration must be carefully sought for. Not a few children said to be suffering from the so-called scrofulous diathesis are really cases of chronic poisoning by pyogenic germs, the true source of which has not been discovered. I have seen such patients poulticed and given oil and iron when an ulcerated surface in the scalp or elsewhere had been overlooked and thus allowed to continue absorbing septic germs. If the source of septic infection is undisturbed, the poison may be reproduced in sufficient quantity to infect the general system. This need not take place at once, but after an interval of time the lymphatic tissues may lose their power to dispose of the germs, which thus find their way into the general circulation in sufficient numbers to produce a disturbance in distant organs. It is not always easy to draw a sharp distinction between local and general sepsis, or to tell when the former ends and the latter begins. Any of the causes of local infection may likewise produce a general poisoning. Doubtless certain conditions of the system will favor such a result.

A boy of eleven years was brought to me stating he had chilly feelings and fever that came on every morning for a week. He complained some of wandering pains in the legs, but more particularly of pain and soreness on either side of the neck and front of the chest. At the beginning of his illness a large boil came on the back of his neck, followed in two days by another one, which I opened. Examination revealed enlargement of the chains of lymphatics on both sides of the neck and considerable soreness to pressure over the pectoral muscles. Upon investigating his scalp, many nits were found and several small masses of pus, with slight ulcerations. Treatment directed here relieved his symptoms.

A point of interest in this case was that the boy's parents were both rheumatic and for the past two years he had suffered from rheumatic pains in the legs and elbows. During one of these attacks a year ago he complained of pain over the heart, and his parents were told that the rheumatism had attacked this organ. Examination revealed a distinct presystolic murmur. The chilliness, with fever coming on every morning, simulated a malarial attack, but a study of the case showed that the present illness was neither due to a mild attack of rheumatism nor to malaria, but to septic infection from small ulcers on the scalp. Sometimes it is impossible to discover the original source of trouble.

An Italian baby, two weeks old, with healthy-looking parents, was brought to the Demilt Dispensary with an abscess over both wrists, which I opened, letting out a fair quantity of pus. Healing took place, but in about two weeks a swelling was noticed in the right thigh which increased until in several days fluctuation was marked. It was then opened and washed out, considerable pus being evacuated. The abscess extended down to the bone, and it was found necessary to insert a drainage-tube. In a few days a good-sized abscess formed on the back of the neck which was opened and drained. At about this time the baby began to cough, and fine râles were heard in the left lung and base of the right lung. Some dullness on percussion was soon noted on the left side, and a diagnosis of pneumonia made. As this was about clearing up, a patch of erysipelas appeared on the upper third of the left thigh. Fortunately, the infant nursed well throughout its illness and tolerated large quantities of stimulants and tinct. ferri chlorid. A gradual recovery took place without other septic symptoms. The abscess in the thigh discharged for about two months, but examination of the pus failed to disclose tubercle bacilli, and eventually it healed up completely.

An interesting case has been related to me by Dr. News where septicæmia had its origin in a nævus.

A delicate female infant had a pulsating nævus about an inch long by half an inch in diameter upon the cheek. When it was seven weeks old the doctor was called and found the infant very ill, with a high temperature and quick pulse. On the following day the nævus turned black and had a reddened, swollen base. A general eruption, somewhat resembling measles, also appeared upon the body. Death took place upon the following day. The doctor afterward learned that an old woman had professed that she could cure the nævus by treating it with a piece of placenta. A trial was allowed, and she had been vigorously rubbing the placenta into the nævus for several days before the appearance of septic symptoms.

The contagious diseases of children, particularly scarlatina and diphtheria, present the gravest forms of sepsis. In these diseases a distinction can be made between the specific and the septic blood-poisoning. The secondary infection that produces the latter form of poisoning may ensue from the severe angina of scarlatina or from the decomposition and absorption of diphtheritic false membrane. Inflammation of the lymphatic glands of the neck with a phlegmonous cellulitis will often be present in such cases. There is nearly always a high temperature and great prostration. I have recently treated a case of scarlatina in a young child where the temperature remained about 106° F. for a week on account of sepsis. As this form of septic infection is well recognized and described fully in the text-books, further description is here needless.

*Treatment.*—The true line of treatment will be to prevent in every way the entrance of septic germs at any of the vulnerable points. Scrupulous cleanliness, which is practical antisepsis, should be observed from the time of birth. If the mother is in a septic condition, the greatest care must be taken not to infect the infant, principally by destroying the poison at its source by thorough disinfection. The umbilical cord and the navel wound should receive attention from the physician, instead of being relegated entirely to nurses. The cord is sometimes cut with scissors that are not overclean. If the attendant is not sure of the scissors, they had better be passed through the flame of a spirit lamp, and thus rendered aseptic. The cord, after being thoroughly cleansed, should have a dry dressing, such as borated cotton, applied, as its speedy mummification is desirable. If suppuration begins about the navel, frequent washings with solutions of carbolic acid or bichloride of mercury must be employed. In older infants or young children suffering from evidences of septic poisoning, a most careful search must be made for any point where such material might be absorbed. The scalp, mouth, and teeth should be carefully inspected, together with any other possible vulnerable point. When lymphatic enlargements are discovered, instead of using poultices and thus hastening the breaking down of tissue, it would seem better treatment to try and discover the focus of irritation, and, by destroying its source, prevent suppuration. If the poisoning has become general, free stimulation and support will be indicated. At the same time every effort must be made to cut off the source and entrance of septic germs.

27 West Fifty-first Street.

## THE PLACE THAT NAUPATHIA OR SEASICKNESS SHOULD OCCUPY IN NOSOLOGY.*

By WINSLOW W. SKINNER, M. D.

Seasickness is one of those affections which the medical profession, as a whole, has studied but little, and, because it is attended with little or no mortality, its nature, its symptomatology, and its pathogenesis have been much neglected. Indeed, in my conversations with other members of our profession on this subject, I have found that, as a rule, their knowledge of this affection was not greater than my own was before I made seasickness the subject of special study, and which may be summed up by saying that the movements of the ship produced, in many persons, nausea, vomiting, pallor, headache, and extreme prostration; and that sometimes alcohol, sometimes the bromides, and sometimes amyl nitrite, would benefit or cure the trouble.

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* Read before the New York Neurological Society, May 7, 1889.

I shall not at this time review the opinions of other authors concerning naupathia. I need only cite the names of Darwin, Wollaston, Pellarin, Gillchrist, Larrey, Kéraudren, Chapman, and Ossian-Bonnet, of Europe, and Dr. Barker, Dr. Corning, Dr. Gardner, Dr. Hubbard, Dr. James, Dr. Keating, and Dr. Kessler, of our own country, as among the few who have tried to discover the real cause of seasickness and to apply a proper remedy to it. My own practical studies of this affection began a little over three years ago when I made my first voyage as ship's surgeon from Havre to Buenos Ayres. I have had excellent opportunities to thoroughly observe this sickness in all its forms, for since that time my engagements have taken me over nearly sixty thousand miles of ocean, the passengers under my care numbered upward of two thousand, while the written clinical histories of seasickness upon which my work is based number seventy-two. I may also add that I have observed the affection in persons of many different nationalities, from the listless dark-skinned native of the Cape Verde Islands to the sensitive nervous American.

In order that each may be able to judge for himself of the place that naupathia should occupy in a classification of diseases, allow me first to enumerate the various symptoms that my observation has shown to belong to this affection. Many of them have never been mentioned by any other author whom I have read, and it was precisely these newly observed symptoms that caused me to regard seasickness in a new light and to treat it by a new method which has proved itself to be remarkably efficient even in the severest cases.

1. Let us turn our attention first to those symptoms which pertain directly to the *central nervous system*, especially of the brain and of the medulla oblongata. In a typical, well-developed case there are extreme prostration, a feeling of great weakness, which may render the patient incapable of making the least exertion and oblige him to remain in bed for days and even weeks; vertigo; cephalalgia, often extremely intense, located generally in the frontal region and sometimes in the temporal, sometimes general; the feeling of heaviness in the head, of constriction of the temples; lastly, insomnia, which may deprive the sufferer of all repose during several days in succession.

One other very important symptom which I have never seen mentioned in connection with seasickness is myosis, which is observed in three quarters of the cases of well-defined naupathia. This symptom will be discussed in a moment.

The reflex movements are unchanged. The corneal, pupillary, pharyngeal, abdominal, tendinous, and plantar reflexes remain normal. The pupils retain their reflex activity, as well under the action of light as in accommodation.

2. The digestive organs present a certain number of symptoms, many of which might properly be classified, however, as referring more nearly to the nervous system. Commencing at the superior extremity of the alimentary tract and naming them in their order downward, we find first ptyalism, a disagreeable or nauseous taste in the mouth, coldness and pallor of the lips. The tongue, in simple seasickness, is always rosy or pale, moist, and free from any coating.

Anorexia is one of the earliest symptoms that herald the approach of seasickness; then come nausea and vomiting, the latter often seeming to the non-medical observer to be the principal and most characteristic symptom of the affection. It is alimentary at first if the patient has eaten recently, but rapidly becomes mucous, then biliary. In regard to emesis in seasickness, I fully agree with Dr. Barker that it is a popular error to consider it as generally beneficial; and I add that it is undoubtedly a source of great exhaustion, as, besides the nutritious substances that are ejected, even when the vomiting has become biliary in character, the loss of which weakens the patient, there is also much fatigue caused by the mere effort of retching with such frequency.

There is often pain in the epigastrium due to retching and vomiting, and sometimes veritable gastralgia due to prolonged abstinence from food. Constipation is a very prominent symptom. It has been constant in the cases I have observed, but other physicians assert that they have occasionally found diarrhœa in seasickness. It is an indication in the treatment of the affection, but does not, in my opinion, require the administration of a cathartic. This is also a symptom which is due to deficiency of nervous action. The liver, spleen, and other abdominal organs remain apparently in a normal state.

3. The circulatory system yields important symptoms; they indicate generally a *slowing of the circulation and a lowering of the pressure of the blood*. The cardiac pulsations are not so strong as in health; their number is almost always lessened in men (*bradycardia;* several times I have observed it to be as low as 57, 51, 48, and even 45 in a minute); while in women it is increased as often as diminished, and sometimes remains normal (the maximum I have noticed is 114 in a minute without fever, the minimum 51); lastly, in children, it is almost always increased (*tachycardia;* the maximum is 120 beats, of course, without signs of fever). The pulse is less resistant, more compressible than the normal. Sometimes it can hardly be felt, so feeble is it. Otherwise it is regular, equal, non-dicrotic.

4. The unstriped muscular fibers present, by their inertia, a few symptoms. To their inaction I attribute the constipation before mentioned, and the inertia of the bladder which allows the patient to hold urine thirty-six or forty-eight hours without feeling much necessity of voiding it. Also a general relaxation of the unstriped fibers which enter into the composition of the blood-vessels would cause the lowering of the pressure of the blood already mentioned.

5. The skin becomes pale, cold, and often moist and clammy, thus indicating that the circulation of the blood in this organ is deficient.

The urine is remarkably diminished in quantity, 200 or 300 cubic centimetres being a fair daily average. Notwithstanding the difficulty of obtaining it on shipboard, I have roughly analyzed several specimens which in general presented the following characters: the urine was acid, clear, of the color of light amber, depositing no sediment and containing no albuminoid substance and no glucose.

7. Lastly, naupathia is an apyretic affection. The central temperature of the body remains nearly unchanged, only varying a few tenths of a degree above or below the average normal.

As a deduction from this considerable array of symptoms comes this leading proposition: that the principal symptoms of seasickness, if not all the symptoms, depend, first, upon an abnormal state of the circulation of the blood; secondly, upon an abnormal state of the nervous system.

Some of these symptoms are due to anæmia of the medulla oblongata, as has been thought by many investigators. These are emesis and the acceleration or slowing of the cardiac pulsations; others are due no doubt to anæmia of the hemispheres, such as great prostration, vertigo, and cephalalgia; others to anæmia of the skin and mucous membranes, such as the pallor and coldness of both. The scantiness of the urine is due to anæmia of the kidney, or, what amounts to the same, the lowering of the arterial tension in this organ. Again, the constipation, the compressibility of the pulse, and probably, also, the variation in the number and force of the heart-beats, indicate a defective or diminished action of the sympathetic nervous system upon the unstriped muscular fibers of the intestine and upon the intracardiac motor ganglia.

In view of the foregoing, the following proposition may be submitted: *The cause of naupathia is the general lowering of the arterial blood-pressure.*

The symptoms above named are considered as clinical evidence of lowering of the pressure of the blood; they are the anæmia of the brain and medulla, the compressibility of the pulse, the coldness of the extremities, the oliguria or scantiness of urine. More mathematical evidence might have been had by means of the sphygmograph or the sphygmometer, but I was unable to use one on shipboard.

Again, the cause of the lowering of the blood-pressure is the feebleness of the heart's action, and probably also the lack of tonus of the blood-vessels. This is easily explained by invoking a functional paresis of the cervical portion of the sympathetic. It is well known that stimulation of this portion produces acceleration of the heart's action and elevation of the blood-pressure. It is logical, therefore, to admit that paresis of the same portion would produce contrary symptoms—to wit, slowing of the heart-beats and lowering of the blood-pressure, precisely what is observed in seasickness. The anæmia of the medulla and of the pons Varolii, in which is situated the center for the regulation of the pressure of the blood, easily explains the functional paresis of the great sympathetic, for this center, being insufficiently nourished owing to the anæmia, can not perform its functions normally.

But the sympathetic nervous system is the source of other symptoms besides those consequent upon the feeble pressure of the blood. These are the constipation, the myosis, the slowing of the pulse (always present in men, present in one half the cases in women), all of which unite to indicate a paresis of that system. Thus presented, we may say that *there is not a single symptom of naupathia that can not be explained by referring it directly or indirectly to paresis of the great sympathetic.*

Seasickness, as others have also said, ought not to be considered a disease, certainly not more so than syncope, for instance, with which it has many points in common. Moreover, this affection is not caused or accompanied by any known anatomical lesions; it is only the expression of certain functional or dynamic disturbances of the organism. Affections without known lesions are generally known as psychoses when they affect principally the mind, and neuroses when they affect other functions of the body. I propose, therefore, to classify seasickness among the neuroses, and, in consideration of the preponderating *rôle* which the sympathetic nervous system plays in its production, I believe it should be considered as a neurosis of the sympathetic system.

170 West Sixty-fourth Street.

# A CASE OF LARYNGISMUS STRIDULUS AND ECLAMPSIA ASSOCIATED WITH RHACHITIS,

### *WITH SOME REMARKS.**

By HIRAM N. VINEBERG, M. D.

The following case, I think, offers some points of interest:

S. S., male, aged nine months, was brought to my division of the children's class at the Vanderbilt Clinic on February 6, 1889. He was born at full term, the labor was not instrumental, and the child cried immediately after birth. He is the only offspring of healthy parents, and was brought up on the breast, with the addition of occasional feeding with bread, milk, and soup, until fourteen days prior to coming to the clinic, since when he had been allowed the "run of the table." In the beginning of December of last year the child fell out of bed, but cried almost immediately afterward, and no symptoms of cerebral concussion followed. This is the only history of any injury. About six weeks before I saw the child it began to suffer from peculiar attacks manifested by a crowing noise and by throwing its head about from side to side. The eyes would bulge out, the face become blue, and the breathing would become arrested. In other words, the child began to have distinct attacks of laryngismus stridulus. At the outset the attacks would recur as often as three or four times daily. Later on they grew less frequent, but decidedly more severe, and often terminated in a general convulsive seizure. For three days the convulsions recurred as often as six times a day; at times they would be preceded by an attack of laryngismus stridulus, and at other times they would occur independently of these. Many of the convulsive seizures were extremely severe, and my friend Dr. Höfling witnessed one attack which was fully of two hours' duration. In the intervals the child seemed fairly well, and the only thing which the mother noticed, in addition to the foregoing attacks, was marked constipation. On being questioned, however, she stated that the child perspired freely about the head, and was in the habit of kicking off its clothes at night. At the time of the first visit the following note was made of the baby's condition:

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* Read before the Section in Pædiatrics of the New York Academy of Medicine, March 14, 1889.

The patient is fat, flabby, and anæmic, the superficial veins of the head are unusually prominent, the anterior fontanelle is large and rather full. *No softening of the cranial bones.* There are no teeth, nor swelling of the gums. The epiphyses of the radii and ulnæ are enlarged and thickened. There is no deformity of the chest. Lower extremities present no lesions. The spleen is considerably enlarged. No appreciable increase of the hepatic dullness. Lungs and heart are healthy. No opportunity to examine the urine. The rectal temperature is 99·2° F., and the tongue is clean. While the child was being examined it had an attack of laryngismus stridulus affecting the laryngeal muscles only.

Instructions were given as to the child's diet, and bathing in salt water. Two grains each of calomel and soda were ordered to be given every second night, and ʒ j of cod-liver oil with gtt. ss. of ol. phosphoratum three times a day after feeding.

*February 8th.*—No improvement. The child had a severe attack of convulsions, after leaving the clinic, on the way home. It is very restless and peevish. To continue with the foregoing treatment, and to have in addition ten grains of bromide of potassium night and morning.

*13th.*—The father called to say that while the child had been taking the bromide no attacks of laryngismus stridulus or convulsions occurred, and that the medicine gave out two days ago. Since then the attacks of laryngismus stridulus reappeared. Re-ordered the bromide salt. I then saw nothing further of the little patient until a few days ago, when the mother called with him and stated that he had had no further attacks, and that she ceased attending on account of pecuniary difficulties and because she considered the child as cured. Six days before, left inguinal hernia suddenly appeared without any apparent cause, and a suitable truss had been applied. The child, though much improved in appearance, was still pasty-looking and anæmic. The gums over the upper incisors were somewhat swollen. The mother stated that the baby still perspired some about the head, but that he no longer suffered from constipation. He was then ordered vin ferri, ʒ ss., t. i. d., in addition to his former treatment.

Before 1843 laryngismus stridulus was universally looked upon as being due to enlargement of the thymus gland. At that period Elsässer drew attention to the association of that affection with craniotabes. Then, in 1853, appeared Lederer's publication of ninety-six cases of laryngismus stridulus, ninety-two of which showed marked softening of the cranial bones. Friedleben's classical article, in 1858, on diseases of the thymus gland completely overthrew the thymic theory of laryngismus stridulus. As an expression of the state of the profession on this point since the appearance of Friedleben's articles, we may quote the following sentence from Fagge's "Practice of Medicine" (vol. i, page 800): "As a matter of fact it is now certain that there is no relation whatever between laryngismus stridulus and the state of the thymus."

But the pendulum is beginning to swing in the opposite direction, and the most important contribution to the pathology of the thymus gland of recent times—that by Dr. A. Jacobi (reprinted from the "Transactions of the Association of American Physicians," 1888)—recognizes swelling of that gland as being an occasional cause.

All modern authors, excepting those in France, lay great stress upon the dependence of spasm of the glottis on rhachitis. Rehn (Gerhardt's "Kinderkrank.," vol. iii, page 92) says he can not remember a case in which there were not symptoms of rhachitis, and Steffen (von Ziemssen's "Cyclopædia," vol. iv, page 466) states that at least nine tenths of the cases seen by him were associated with rickets. But in the experience of these authors, as well as in that of others, the rhachitical processes present seldom manifest themselves in softening of the cranial bones. Rehn asserts that he saw a number of cases of spasm of the glottis in which there were no signs of craniotabes, and again that he observed several cases of craniotabes for a long time in which spasms of the glottis never occurred. These statements correspond closely to my own limited experience and to the history of the case presented to-night.

Laryngeal spasm is most frequently met with between the ages of four months and two years. It may, however, occur at an earlier period of life as well as in more advanced years. West saw a case in a baby of ten weeks, and I have recently seen a child which suffered from attacks during the first four weeks of its life. Henoch was the first to point out that it occurred chiefly during the early part of the year. Dr. Gee, among sixty-three cases, observed no fewer than fifty-five between the months of February and June, inclusive (Fagge's "Practice of Medicine," vol. i, page 804). The affection is much more common in boys than in girls. Steffen (*loc. cit.*) cites the statistics of a number of authorities showing that the proportion of boys to girls is as two to one. Several children of the same family are often attacked with the disease. Gerhardt saw nine and Reid thirteen children in one family. Still, these observations do not argue so much an hereditary disposition as they do that the children were all exposed to the same unsanitary influences. Heart affections, interference with respiration on account of abnormal elevation of the diaphragm through overfilling of the stomach or bowels, and swelling of the liver, all favor the onset of spasm of the glottis in a child so disposed. Enlargement of the liver has been looked upon by some, notably by Hood, as sufficient of itself to bring on the paroxysms. Irritation in any part of the body may reflexly precipitate an attack. It is usually accepted that enlarged tracheal and bronchial glands may act as pathological factors through irritation of the vagi. Fright, fear, and, according to Wunderlich, loud shouting and excessive running may, in very excitable children, evoke a spasm. Romberg has seen a case in which the paroxysms set in after the sudden disappearance of a chronic extensive skin eruption, and on the recurrence of the eruption the paroxysms ceased.

*Pathology.*—Elsässer was of the opinion that the attacks were brought on by pressure of the brain against the pillow on account of the defect of the cranial bones. This theory had soon to be discarded, for it was found that the attacks were just as frequent in the sitting as in the lying posture. Then, again, they were witnessed in children who did not show the slightest signs of craniotabes. Löschner's theory of congestion of the brain and its membranes and consequent hyperæmia is also untenable. For, if this were the case, it is difficult to understand why spasm of the glottis should be so rare in congestive hyperæmia of the brain due to heart affections and to diseases of the lungs and larynx which are attended with great difficulty of breathing. Further, laryngismus stridulus is a rare accompaniment of organic affections of the brain and its coverings. It may therefore be maintained that while a few cases of spasm of the glottis may be due to organic changes in the cerebrum, such as effusion, the majority of the cases are dependent upon functional disturbances, such as anæmia and hydræmia of the brain.

*Morbid Anatomy.*—This, as yet, may be considered as negative. Nothing so far has been detected in the nerves, muscles, or mucous membrane to account for the attacks. The brain and its membranes have generally been found in a state of hyperæmia. Effusion into the ventricles and between the membranes is not uncommon. The most constant morbid changes met with, as is to be expected, are those which are produced by rhachitis.

The diagnosis of laryngismus stridulus is easy enough to one who has once witnessed an attack. The peculiar cry, the projection of the eyeballs, the blueness of the face, and the suddenness of the onset are all characteristic. The affection with which it is most likely to be confounded is false croup, or what Eustace Smith calls laryngitis stridulosa.

| *Laryngitis Stridulosa.*[*] | *Laryngismus Stridulus.* |
|---|---|
| Extremely rare under the age of twelve months. | Observed most frequently from birth up to the twelfth or eighteenth month. |
| Usually preceded by slight coryza and light febrile disturbance. | Not preceded by coryza and febrile disturbance. |
| Attack usually occurs at night, and at the most there are not more than five or six attacks. Usually there are not more than two attacks. | Attack may occur during the day as well as at night, and there may be as many as twenty attacks in a day. |
| The attack is attended and followed by a hoarse, barking cough, and the breathing, as a rule, even in the intervals, is sonorous. | There is no cough. |
| The duration varies from a few minutes to several hours. In the interval there is usually some fever and cough. | The duration is seldom longer than one minute. In the interval there is no cough or fever. |
| It is an acute affection and seldom continues for longer than two or three days. | It is a chronic affection and the attacks may recur for weeks or months. |
| Convulsions are rare. | Convulsions are common. |
| It is rarely fatal. | It is very often fatal. |

Attacks of bronchial asthma are easily distinguished by the character of the breathing and by an examination of the chest. Asthma due to compression of the trachea or vagus is characterized by the long duration of the attacks of dyspnœa, by the habitual stertor of the respiration, by the noisy and spasmodic cough, and by the presence of many of these symptoms in the intervals.

*Prognosis.*—It is a very grave affection, having a high mortality. Barthez and Sanné saw only one recovery in nine cases, and Herard one in seven cases. The majority of the severe cases prove fatal. It is said to be more fatal in boys than in girls. Lorent noted in a large collection of statistics that the death rate was 45 per cent. among boys and only 32 per cent. among girls. Death may occur during an attack (which may be the first), or the fatal termination may be brought on by an intercurrent disease, or the child may succumb to a gradual emaciation and exhaustion. It is more than likely that the high death rate stated by authorities is due to the circumstance that only the severe cases are brought under the notice of the physician. There can be no doubt that many infants suffer from "crowing breathing," for which parents never think of consulting a doctor. The second case which I present here to-night is an instance of this. The child suffered from attacks of laryngismus stridulus for the first four weeks after birth, and the mother paid no attention to them.

*Treatment.*—The treatment resolves itself into that of the attacks and that of the interval. If the attacks are mild they pass off so quickly that there is neither time nor need to do anything. But if the spasms are severe and of long duration, something must be done, and that at once, to allay them. The child should be seated in a tub of warm water and the upper part of the body should be douched with cold water. Even before the bath is resorted to an attempt should be made to excite vomiting by tickling the fauces with the finger. It is impossible to give remedies by the mouth to provoke emesis, and should the foregoing simple manœuvre fail, a hypodermatic injection of apomorphine could be administered, providing it was at hand. Vogel speaks highly of raising the child and throwing its head backward so as to give the larynx the most favorable attitude (Vogel, "Practical Treatise on Diseases of Children," translated by Dr. H. Raphael, p. 228). Some advise the inhalation of ammonia, a remedy warmly recommended by Eustace Smith. Simpson, West, and others advise the inhalation of chloroform, but this is too dangerous a drug to be intrusted to the mother. To prevent a return of the spasms, Eustace Smith strongly recommends cold sponge baths. These may be given three times daily. The child's diet and sanitary surroundings should receive the closest attention. Search must be made for any source of irritation. If the gums are tense and swollen they must be lanced, and the constipation which is usually present must be relieved by suitable remedies. The drugs most frequently employed are the bromides of ammonium and of potassium, musk, and belladonna. Musk has many very warm advocates in Germany, and may be given to a child twelve months old in doses of one third of a grain every six hours. Belladonna to be of any service must be given in large doses. As much as fifteen drops of the tincture, three times a day, may be given to a baby a year old. Time will not permit my saying much about the treatment of the rickets which usually will be found present in one form or another. I should like to say a word or two about the value of phosphorus in that disease.

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[*] Barthez and Sanné, "Maladies des enfants," vol. i, p. 549.

In the children's class at the clinic we are very fond of administering it in the form of oleum phosphoratum combined with cod-liver oil. A favorite formula is ol. morrhuæ, ℥ iv; ol. phosphoratum, ʒ ss. M. Sig.: ʒ j, three times a day, after feeding, to a child a year old. As far as my experience goes, I think I may safely assert that the symptoms of rhachitis disappear more rapidly under this form of treatment than when cod-liver oil is given alone.

Before concluding, I would like to quote, with your permission, a note which I appended to a "Report on Phosphorus in Rickets" in the "N. Y. Med. Jour." of September 10, 1887:

"Any one who has followed German medical literature for the past two years will have a vivid impression of the polemical discussions on the subject of the treatment of rickets with phosphorus. The disputants contested their points with the vigor and bitterness of the religious fanatics of a bygone age. Not a small portion of the discussion was devoted to the question of priority in recommending phosphorus in rickets. In this connection it will be of some interest to American readers to turn to a pamphlet on the anæmia of children written by Professor A. Jacobi several years ago. In it the author threw out the suggestion that, on the basis of our knowledge of the chemical processes going on in the body, phosphorus should be beneficial in the affections of children characterized by bone lesions."

229 East Sixtieth Street.

**The Diplococcus of Meningitis.**—"By means of bacteriological investigations and experiments upon animals, made with material obtained from the post-mortem examination of a case of epidemic cerebro-spinal meningitis which occurred at the beginning of 1888 in Roccella, a village near Palermo, Dr. de Blasi and Dr. Russo-Travali were able to obtain and study a micro-organism which did not develop at the ordinary temperature, and the morphological and biological characteristics of which did not leave any doubt whatever in their minds that it was the same as that studied first by Weichselbaum and more recently by Goldschmidt—*i. e.*, was identical with the microbe described by the former as the intercellular diplococcus of meningitis."—*Lancet.*

**"Procursive" Epilepsy.**—"This term is in far more common use among the French than with us. It signifies an attack the chief feature of which is a propulsion of the body in some special direction; it is apparently not accompanied by actual loss of consciousness, or followed by coma; its duration does not exceed that of an ordinary epileptic fit; according to Bourneville and Bricon, it is attended with marked congestion of the face. These cases are known to be epileptic by their associations as well as by the character of the attacks, the element of suddenness being very marked. In the same individual they may be replaced by epileptic fits, or they may replace a true epilepsy with loss of consciousness. There is, indeed, nothing so very remarkable in their occurrence if they be regarded from a physiological standpoint. They are the equivalents of head-banging and head-shaking in infants and children. The actual kind of movement varies much in different cases—in some a rapid revolving of the body around its horizontal axis, in others a rotation in a large circle, and in others a movement recalling that performed by some clowns. The highest expression of consciousness—if this be perfect control over volitional effects—is evidently lost, since the patient can not prevent himself from performing these absurd antics."—*Lancet.*

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## INFLAMMATION OF THE SEMINAL VESICLES.

In an article published in the "British Medical Journal" for April 20th, Mr. Jordan Lloyd, of Birmingham, calls attention to the part played by inflammatory disease of the seminal vesicles in obscure vesical, prostatic, and urethral affections, stating it as his belief that the disease is far from uncommon, and that it is worthy of much more attention on the part of surgeons than they have hitherto given it. That it will be found to be present in many cases of apparent cystitis and prostatitis he feels no uncertainty; and that as a complication of gonorrhœal epididymitis and urethritis it will in many cases underlie the long-existent and obstinate symptoms which follow the apparent disappearance of the original disease. In many respects "seminal vesiculitis" (to use the author's hybrid term) is analogous to Falloppian salpingitis, and is dependent on similar causes.

Though sometimes a primary affection—at least occurring where no history or other evidence of antecedent disease as a cause can be elicited—the disease is usually secondary to simple or gonorrhœal urethritis, the latter constituting by far the most frequent cause. Direct pressure on the perinæum was the only assignable cause in one case of the primary form cited, the patient having noticed that pressure by the peak of his bicycle saddle had often excited symptoms of vesical irritability. In this case cystic enlargement due to obstruction of the ejaculatory duct was the pathological condition. In another instance there was suppuration of both seminal vesicles successively, not even a mechanical cause being found for the disease. Aspiration *per rectum* relieved the first-mentioned patient, and the fluid was found full of spermatozooids; and in the second case an incision through the perinæum was followed by a cure.

The secondary form may follow simple urethritis due to the passage of a bougie, urethral stricture, or coitus with a woman suffering from leucorrhœa. Occurring as an accompaniment of gonorrhœa in its milder form, it is said by Mr. Lloyd to be as common a complication as epididymitis; while the severer type, which is more infrequent, sometimes ends in suppuration, but not frequently. The tendency of all forms is to end in resolution, but, if suppuration takes place, the pus may burrow laterally into the ischio-rectal fossa or into the deep circumrectal tissues, or it may escape by the ejaculatory duct, or the abscess may rupture into the cavity of the bladder or that of the rectum, though it never penetrates into both cavities in the same case. The disease sometimes runs a chronic course, and results in a cystic enlargement of the vesicle, due to obstruction of the lumen of the ejaculatory duct. One case is cited in which such a cyst contained ten pints of fluid.

The symptoms of "seminal vesiculitis" detailed are essentially those which are characteristic of vesical irritability, of cystitis at the neck of the bladder, and of acute prostatitis, with the added sign of almost constant painful erection of the penis. Nocturnal emissions are common, as is the presence of blood in the seminal fluid. Physical examination *per rectum* reveals the presence of an elongated tumor, situated above the prostate, at the side of the base of the bladder, and running obliquely upward and outward. The presence and size of this tumor are made more manifest to the exploring finger if a large metallic sound is passed into the bladder and moved from side to side over the tumor. In the acute form, heat, tenderness, and swelling are felt above the prostate; and, if accompanied by the symptoms of vesical irritability with no urinary evidences of cystitis, this sign should make the diagnosis certain.

The author recommends an incision through the perinæum rather than through the rectal wall for the evacuation of pus in cases in which suppuration occurs. He urges digital examination *per rectum* in all cases of gonorrhœa or epididymitis which present vesical symptoms, and believes that in most of such cases this disease will be found.

Mr. Lloyd's paper bids fair to throw some light upon the nature of many of those cases of apparent urethral and vesical hypochondriasis the management of which is so often a source of intense annoyance to the surgeon. Again, it perhaps explains many of the facts which support the so-called "latent-gonorrhœa" theory of the causation of Falloppian salpingitis and of perimetritis. At all events, the subject is worthy of thorough investigation, for, while the disease is by no means a new one, it certainly has not received the attention that is its due.

### BACKWARD DISLOCATION OF THE LOWER JAW.

In our issue for February 16th, on page 194, we published an account, by Dr. Henry C. Coe, of a case in which he had diagnosticated subluxation of the lower jaw backward with displacement of the interarticular fibro-cartilage. Dr. Coe's patient was a lady of a nervous temperament, and, at a meeting of the New York Clinical Society, at which he gave the history of the case, he expressed the opinion that it was "due to a peculiar laxity of the ligaments, especially the capsular ligament, and associated with a spasm of the muscles, of purely nervous origin." The displacement was recurrent, usually coming on during sleep and being associated by the patient with unusual physical or mental strain during the previous day.

From anatomical considerations, some hesitation has generally been felt about recognizing the possibility of such a dislocation, but there may be reason for a revision of current opinion on this point. Reference is made in the "Gazette hebdomadaire de médecine et de chirurgie" for March 22d to an exposition of the subject in German, founded upon four personal observations by Thiem during the past two years, together with the report of a case furnished by a colleague. The patients were all elderly women. Gaping caused the injury in three instances, while in another a too energetic use of the tongue-depressor resulted in a backward displacement when the maxillæ met. The author cites Guérin's reports concerning congenital backward dislocations, and that of R. W. Smith, in which dissection showed a very imperfect development of all the components of the joint on the affected side, including bones, interarticular cartilage, ligaments, and muscles. The usual signs of luxation are absent in the class of defects mentioned by Smith; but facial symmetry is wanting and there is marked deformity of the features, the face sinking in on the affected side, while it is rotund on the other. In spite of Crocker King's observation, in 1855, true backward dislocation is often overlooked, says the author.

Anatomically, he thinks, the possibility of this dislocation is beyond question. The condyle may slip into a temporary receptacle that is bounded in front by the tympanic tubercle, behind by the mastoid process, and internally by the styloid process. This "tympanico-stylo-mastoid fossa" (*fosse tympanico-stylo-mastoïdienne*) is extremely small in men, but in women it is said to be capacious. The maxillary angle, varying in degree with age, is also a factor in this form of dislocation, being hardly appreciable in young children and in the aged, and the alveolar dental arch being scarcely, if at all, developed. Thus the masseter and internal pterygoid muscles are levators only, having no power of forward traction, while the temporal muscle tends to draw the bone backward. Hence the rarity of the ordinary forward dislocation among children and old persons. This backward dislocation occurs in the act of closing the mouth, the lower jaw coming in contact with the upper and being forced slightly backward, the condyle resting exactly in front of the mastoid process. Reduction is effected by opening the mouth suddenly.

Sir Astley Cooper looked upon the victims of subluxation as young persons of a feeble and relaxed muscular system, and of little constitutional stamina. Noisy movements of the temporo-maxillary articulation are also a symptom of insufficient tone, indicating that quinine, iron, strychnine, good food, cold bathing, electricity, and open-air life are in order. Agnew calls attention to the fact that the vice of subluxation and noisy movements may degenerate into spontaneous luxation, in which one or both condyles slip out of the glenoid cavity in the most unexpected manner. Sometimes, in addition to the general tonic treatment, it is necessary to protect the jaw by a sling about the chin, fastened by tapes over the head.

It will be perceived that the superior capacity of the "tympanico-stylo-mastoid fossa" in women renders equanimity of temper and gentle speech in them a precautionary measure as well as an æsthetic and ethical duty.

## *MINOR PARAGRAPHS.*

### SPLENIC MURMURS.

The "Lancet" for April 6th refers to a paper by Dr. Bouchard, published in "La France médicale," calling attention to a bruit heard over the region of an enlarged spleen—a bruit not due to pressure upon vessels or to conduction from the heart, but apparently generated in the splenic artery or in the spleen itself. Of five cases of enlarged spleen, three were due to cirrhosis of the liver, one was associated with enlarged liver in an obese person, and a third was a hypertrophy as in leucæmia, but without alteration in the blood. In several instances—in malarial spleen and in one marked case of leucæmia—no bruit could be detected. In a detailed account of a case of cirrhosis of the liver that ended in recovery the spleen was hard, smooth, and very large, measuring seventeen by eleven centimetres. Over the whole area, and confined to it, a soft prolonged bruit was audible, synchronous with the pulse. In whatever posture the patient was examined, and always during the three years that he was under observation, this bruit was present. There was considerable ascites, requiring paracentesis on three occasions. The arrest of the disease was attributed by Dr. Bouchard to the prolonged use of calomel in small doses. An intercurrent attack of uræmia was successfully treated with naphthol, on the theory that intestinal antisepsis is necessary to limit the operation of self-intoxication in the production of uræmia.

### MÜRGER AT THE ST.-LOUIS.

Attacked with purpura during the last few months of his life, the poet Mürger entered the St.-Louis in 1840, and occasionally jotted down his impressions, sometimes in charming verse but generally in modest epistolary prose. The following brief extracts from his letters, published in the "Union médicale," give some idea of the man, together with more than a suggestion of French treatment and French hospital life nearly fifty years ago: "In the hospital again! The other night I was suddenly awakened by a sensation of general roasting all over the body. I seemed to be enveloped in flames. I literally blazed. Lighting the candle, I was horrified at the spectacle presented by my poor self—red from head to foot, red as a boiled lobster. . . . The physicians are amazed at my condition. They call it purpura. Purple indeed! The purple of the Roman emperors was not, I warrant, so purple as this envelope of mine. Sometimes I have intense headache. . . . Now I am in a state of reaction that science doesn't know much about. Every day from noon till five I can't walk thirty paces without staggering. A million trumpets blare in my ears. I am bled, bled again, and poulticed—all in vain. I take, all by myself, as much arsenic as three melodramas. How it will end I don't know. They put every sort of thing on my body—leeches, for instance, to relieve vertigo. . . . I am happier now, in the large ward that contains one hundred and six beds, filled for the most part by fairly well-bred men of intelligence. Bad as the food is, it is certain, and, in regard to quantity, ten times better than that which I could secure for myself. I ask for soup two or three times, which makes a change of costume necessary before each demand, for it is only to be obtained by strategy." Mürger left the hospital in a month. "My red *culotte*, my purpura, resists every kind of sponging and pressing. I have wallowed in brimstone, eaten it, drank it, and yet the aforesaid purpura appears without fail every Thursday which is a monstrous thing for science—always opening the biggest kind of eyes and seeing nothing clearly."

### THE VAGARIES OF FAITH-HEALING.

Canon Wilberforce is the latest convert to the "faith-cure" doctrine. According to the "Lancet," this eminent Churchman has reported a cure in his own person from a severe internal illness which he said was by competent medical men held to be incurable without an operation. He submitted himself to a "faith" regimen by preference; he was anointed and prayed over, and in three weeks was cured. Skeptical physicians will hold in reserve their acceptance of this narrative until they know the meaning and true gravity of the alleged "internal illness," and also how long the Canon remains "cured," even if it is ascertained that the alleged illness was diagnosticated by competent men as grave and demanding an operation. The most perplexing reflection about the story is that the duration of the treatment under the faith-healing process was so long, for, if the process can accomplish these results, it seems preposterous that three weeks of faith and prayer and anointing should have been needed. It reminds us of the clairvoyants, by whose marvelous powers "the past, present, and future are foretold," who have to be sought out on some third-floor-back in a disreputable or decayed neighborhood. The self-contradiction will crop out somewhere sooner or later.

### MEDICAL ELECTRICITY FROM THE DYNAMO.

Last week we cited Dr. W. E. B. Davis, of Birmingham, Alabama, as an advocate of the employment of electricity from the Edison dynamo in medical practice. The same idea received substantial support at the last meeting of the Section in Laryngology and Rhinology of the New York Academy of Medicine, in a paper read by Dr. O. B. Douglas. Several New York physicians have used the dynamo current, and it appeared on the occasion mentioned that they regarded it as satisfactory. The caution was given, however, that the use of the alternating current (which is not the one employed by the Edison company) required considerable familiarity with electro-physics to enable the operator to guard against its dangers. A gentleman connected with the Edison company was present at the meeting, and declared that the current generated by his company was devoid of danger, and that its flow from the down-town station had been interrupted for only two hours since its establishment, several years ago. The galvanic battery seems destined to pass out of medical use before long, and it looks as if even the storage battery would have to yield to the dynamo in districts where the latter is available.

### VITAL STATISTICS FOR THE ELEVENTH CENSUS.

It is a matter for congratulation that the work of collecting and arranging the vital statistics of the country for the census has again been placed in the hands of so competent and energetic a man as Surgeon Billings, of the army. In another column we print a circular on the subject issued by the Superintendent of the Census, and we venture to suggest to our readers that a thorough compliance with its requests will aid materially in a most important and desirable statistical inquiry.

### THE RUSH MONUMENT.

It is not creditable to our profession that the project of erecting a monument to the memory of the renowned Rush in Washington should have hung fire for so long a time. It can not be due to any lack of energy on the part of the committee having the matter in charge, for its chairman has repeatedly urged the plan upon his professional brethren. The committee's latest appeal will be found printed elsewhere in this issue, and we hope that it will not pass unheeded by our readers.

### MEDICAL PLETHORA IN GERMANY.

According to the "Union médicale," a singular embarrassment exists in Germany in regard to the medical profession. The public authorities are seriously disturbed by the great and constantly increasing numbers of students at the medical schools. The Government will not allow of the establishment of new colleges, and recently the Landtag refused to grant further funds for certain chairs in the schools of Halle and Marburg. In Germany, as in France, there are any number of young graduates without a position of any kind, who apply for State aid that the Government is unable to give. It is urged that some energetic measures be taken that will nip this evil in the bud.

### THE INFLUENCE OF COCA ON THE VOICE.

In the Paris letter that we published in our last issue the statement was made that M. Sandras had lately appeared before one of the medical societies of Paris with remarks to the effect that preparations of coca were paralyzing rather than tonic in their action on the vocal bands, a proposition that the speaker proceeded to demonstrate by drinking a glass of coca wine, after which "it was noticed by every one present that his voice had greatly altered in intensity and acuteness," so that he could "hardly be heard." Such a statement, made before a reputable medical society, is proper matter for publication; but, being at direct variance with general experience, it ought not to be allowed to pass without comment. It may be that M. Sandras's vocal apparatus is exceptional, but the fact should not be lost sight of that an experiment performed on one's self, where the expected effect is one that is capable of simulation, however unconsciously, is anything but convincing. Moreover, we are not told whether the glass of coca wine drank by M. Sandras was made from the leaves or was a mere vinous solution of cocaine, like many of the so-called wines of coca to be found in the market. The efficacy of a preparation of coca intended to act as a tonic can not be gauged by its percentage of cocaine, as is well known. Granting, however, that M. Sandras used a proper preparation, the alleged effect can not weigh much against the overwhelming testimony of laryngologists and dramatic and lyric artists as to the invigorating effect of coca on the voice.

### CRANIA OF AMERICAN MOUND-BUILDERS.

The excavations of tumuli of the mound-builders made this year at two or three points in northern Iowa have yielded better results than former ones. The skeletons found near Chester and Floyd were exceptionally well preserved, furnishing the best skulls thus far obtained from like sources. Of these skulls measurements have been made which indicate that the mound-builder stands very low in the human scale. His cephalic rating is considerably lower than that of the North American Indian and not so high as that of the fossil man of Neanderthal. These results may be slightly modified by further discoveries, but the presumption is that the status of these early possessors of our soil must be fixed at about the lowest point.

### THE JOHNSTOWN CALAMITY.

The medical profession has not been spared by this dire catastrophe. In the published lists of identified bodies we find the name of Dr. G. W. Wagner, and with it the names of Mrs. Wagner (presumably his wife) and three children. He was a graduate from the Cleveland Medical College, of the class of 1878. Dr. J. M. Cooper, one of the alumni of the Jefferson Medical College of Philadelphia, of the class of 1868, lost his life; his wife, also, was lost. There are other names strikingly like those of practitioners known to have been residents of the destroyed town, but discrepancies exist which make it proper to refrain from the present mention of their names. A homœopathic physician, Dr. J. K. Lee, and an eclectic, Dr. Lemon Beam, are among the identified dead. It was natural that the afflicted survivors should feel an added pang, and for other than sentimental reasons, when the advice was given by medical men that they should refrain from endeavoring to save the dead bodies from destruction by the fire that followed the inundation; but the advice was sound nevertheless, and it is nothing short of providential that the fire continued to rage.

### THE AMERICAN MEDICAL ASSOCIATION.

The official programme of the fortieth annual meeting of the American Medical Association appears in full in the "Journal" of the association for May 25th, illustrated with some attractive woodcuts of Newport scenery, including the meeting hall and other points. An enormous mass of material has been promised for the occasion, as is shown by the fact that nearly two hundred and fifty papers and addresses are specified for presentation before the ten different sections. Before the Section in State Medicine, for example, twenty-seven papers are announced to be read during the first three days, the veteran, Dr. N. S. Davis, leading with an essay on the relations of the association to the public health, probably a useful historical paper.

### CIGARETTE-SELLING IN NEW YORK.

The smoking of cigarettes by boys is likely to undergo a wholesome restriction in the State of New York, a law having been enacted by the last Legislature making it a misdemeanor for dealers to sell cigarettes or any form of tobacco to persons under sixteen years of age. A police order was promulgated on May 31st, giving effect to this enactment.

### ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 4, 1889:

| DISEASES. | Week ending May 28. | | Week ending June 4. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 15 | 1 | 10 | 3 |
| Scarlet fever | 159 | 27 | 176 | 26 |
| Cerebro-spinal meningitis | 0 | 0 | 4 | 4 |
| Measles | 129 | 7 | 100 | 10 |
| Diphtheria | 165 | 61 | 132 | 32 |

**The State Commission in Lunacy.**—It is announced that the presidency of the commission has been accepted by Dr. Carlos F. McDonald, of the State Asylum for Insane Criminals, at Auburn.

**Change of Address.**—Dr. George H. Cocks, to No. 218 East One Hundred and Twelfth Street.

**The New York Dermatological Society.**—At the recent annual meeting officers for the ensuing year were elected as follows: President, Dr. George Thomas Jackson; secretary and treasurer, Dr. Condit W. Cutler; executive committee, Dr. Edward L. Keyes, Dr. Henry G. Piffard, and Dr. Daniel Lewis.

**The Massachusetts Medical Society** will hold its one hundred and eighth annual meeting in Boston on Tuesday and Wednesday, the 11th and 12th inst., under the presidency of Dr. David W. Cheever, of Boston. The programme includes an annual discourse by Dr. Henry P. Walcott, of Cambridge, and the following-named papers: "Antipyretics," by Dr. E. N. Whittier, of Boston; "Malarial Fever in Massachusetts," by Dr. C. H. Cook, of Natick; "Aseptic and Antiseptic Surgery," by Dr. H. L. Burrell, of Boston; "Aseptic Obstetrics," by Dr. W. E. Boardman, of Boston; "The Third Stage of Labor," by Dr. J. B. Swift, of Boston; "The Surgical Treatment of Backward Displacements of the Uterus," by Dr. C. P. Strong, of Boston; "The Non-radical Treatment of Cancer of the Uterus and

Vagina," by Dr. H. C. Baldwin, of Boston; "On Pain in the Small of the Back and Hips," by Dr. J. A. Jeffries, of Boston; "Modern Methods in Teaching Clinical Obstetrics," by Dr. Edward Reynolds, of Boston; and "The Treatment of Malignant Disease by Escharotics," by Dr. J. C. Munro, of Boston.

**Dartmouth College.**—It is announced that Mr. Hiram Hitchcock, of the Fifth Avenue Hotel, has given the college a sum of money sufficient to build and equip a hospital, to be used in connection with the medical department, and to stand as a memorial of his deceased wife.

**An Epidemic of Diphtheria.**—At St. John's, Newfoundland, an epidemic of diphtheria has prevailed, causing deaths amounting to over two daily, which, being at the rate of 25 to 1,000 inhabitants per annum, from a single cause, marks it as a most lamentable and serious incursion of the disease. Much sickness has occurred in the provinces northeast of the United States, and by some this is held to be due to the open winter and a water-sodden soil. Influenza, complicated heavily with pneumonia, has been present in Prince Edward's Island and the adjoining territory during the early months of this year.

**Recent Deaths.**—Dr. Erasmus Allington Pond, who died at Rutland, Vt., on May 31st, was a prominent surgeon and formerly president of the State Medical Society. His name is familiar on two continents as the inventor of the sphygmograph that bears his name; several surgical instruments also testify to his inventive capacity. He was born in Franklin, Mass., in 1828, and obtained his degree in 1853 from the Harvard Medical School.

Dr. William A. Douglass, late professor of clinical surgery in the Cooper Medical College, of San Francisco, died on March 26th, aged seventy-two years. He was a native of Virginia and a graduate of the National Medical College at Washington of the class of 1850. He was a consultant physician to the St. Mary's and the German Hospitals.

Dr. Mortimer O'Connor, of Harrisburg, Pa., died in Paris, May 3d, aged sixty-one years, from pneumonia. He had gone to Europe for the benefit of his health, which had been greatly impaired in consequence of an epithelial growth in the mouth, which began last summer. He had spent the winter in Algeria without benefit, and gone thence to Nice and Paris. He was born in Ireland, graduated at Glasgow, a veteran of the Sepoy mutiny, a resident of Harrisburg for nearly twenty-five years, and a member of the Dauphin County Medical Society.

Dr. James B. Lawrence, of Clearwater, Kansas, died suddenly of heart disease on May 28th, aged forty-three years. He was an alumnus of the Georgetown Medical College, of the class of 1872.

**The North Carolina State Board of Medical Examiners.**—At the annual examination, held at Elizabeth City, April 16, 1889, there were fifty-nine candidates for the license to practice in the State. The average standard of excellence shown by the applicants is said to have been superior to that of any previous year. The annual prize, consisting of twenty-five dollars' worth of medical books, offered by the publishers of this journal to the candidate who should pass the most creditable examination, has been awarded to Dr. William H. Cobb, Jr., of Goldsboro.

**The Medico-chirurgical College of Philadelphia.**—The following changes have been made in the faculty: Dr. Frank Woodbury, Honorary Professor of Clinical Medicine; Dr. William B. Atkinson, Honorary Professor of Sanitary Science and Pædiatrics; Dr. John V. Shoemaker, Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine; and Dr. James M. Anders, Ph. D., Professor of Hygiene and Clinical Diseases of Children.

**Society Meetings for the Coming Week:**

MONDAY, *June 10th:* New York Ophthalmological Society (private); New York Medico-historical Society (private); Lenox Medical and Surgical Society; Boston Society for Medical Improvement; Gynæcological Society of Boston; Burlington, Vt, Medical and Surgical Club; Norwalk, Conn., Medical Society (private); Baltimore Medical Association.

TUESDAY, *June 11th:* Delaware State Medical Society (Dover); Maine Medical Association (first day—Portland); Massachusetts Medical Society (first day—Boston); Oregon State Medical Society (Portland); New York Medical Union (private); Medical Societies of the Counties of Chemung (annual—Elmira), Chenango (semi-annual), Delaware (annual), Erie (semi-annual—Buffalo), Genesee (annual—Batavia), Livingston (annual—Geneseo), Onondaga (annual—Syracuse), Oswego (annual—Mexico), Rensselaer, St. Lawrence (semi-annual), Schenectady (semi-annual—Schenectady), Steuben (annual—Bath), Warren (annual—Lake George), and Wyoming (Warsaw), N. Y.; Newark, N. J., and Trenton (private), N. J., Medical Associations; Baltimore Gynæcological and Obstetrical Society.

WEDNESDAY, *June 12th:* Maine Medical Association (second day); Massachusetts Medical Society (second day); New York Pathological Society; American Microscopical Society of the City of New York; Medico-legal Society; Medical Societies of the Counties of Albany, Cortlandt (annual), Dutchess (semi-annual—Poughkeepsie), and Montgomery (annual—Fonda), N. Y.; Middlesex, N. J., County Medical Society (annual); Philadelphia County Medical Society.

THURSDAY, *June 13th:* Maine Medical Association (third day); Rhode Island Medical Society (Providence); New York Laryngological Society; Society of Medical Jurisprudence and State Medicine; Brooklyn Pathological Society; Medical Society of the County of Cayuga (annual), N. Y.; South Boston, Mass., Medical Club (private); Pathological Society of Philadelphia.

FRIDAY, *June 14th:* Medical Society of the Town of Saugerties.

SATURDAY, *June 15th:* Clinical Society of the New York Post-graduate Medical School and Hospital.

## OBITUARY NOTES.

**Dr. James Ethelbert Morgan,** of Washington, emeritus professor of materia medica in the medical department of Georgetown University, died on the 2d inst. Dr. Morgan was born in St. Mary's County, Maryland, September 25, 1822. In 1845 he settled in Washington and continued in the active practice of his profession there until within a few months of his death. Coming to the city in the earlier days of its history, he grew up with the place, becoming widely known and possessing for years the highest confidence and esteem of its oldest and best residents, many of whom have been his earnest and devoted friends. Although mainly distinguished in the line of general practice, he contributed numerous articles upon medical topics to the literature of the day. His "Defense of Medicine and of the Medical Profession," an oration delivered before the Medical Society of the District of Columbia about five years ago, was a powerful and philosophic plea for the value of drugs in the curing of disease. He had been president of the Medical Association and of the Medical Society of the District of Columbia. He was consultant to the Columbia Lying-in Hospital and to the Central Dispensary, and for many years was a member of the Judicial Council of the American Medical Association. With Dr. Robert King Stone he was appointed to investigate the causes of the celebrated National Hotel disease, or epidemic of historical importance which occurred in 1859, and which will be well remembered by our older readers.

A finished classical scholar, Dr. Morgan retained his proficiency in and fondness for study until the last. He leaves a widow and six children—three daughters, one of them the wife of the Hon. Emory Speer, U. S. Judge for the Southern District of Georgia, and three sons, two of whom, Dr. Ethelbert Carroll Morgan and Dr. J. Dudley Morgan, are physicians practicing in Washington.

Personally, Dr. Morgan was of commanding figure, fine address, and great geniality of disposition; a devoted physician, a courtly gentleman, and a man whose sterling qualities were recognized by everybody.

# Proceedings of Societies.

## AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

*Third Annual Meeting, held at Newport, May 21 and 22, 1889.*

The President, Dr. Robert W. Taylor, of New York, in the Chair.

**The Question of the Radical Cure of Deep Urethral Stricture.**—Dr. Edward L. Keyes, of New York, opened the session by reading a paper with this title in which he confined his remarks to organic stricture of the urethra situated at or beyond the bulbo-membranous junction. No one was yet in a position to say what, if any, operation would radically cure deep urethral stricture, while that of the anterior urethra might be pretty certainly cured. He defined three varieties of stricture encountered clinically in the deep urethra. First, the *soft stricture*, which was a very superficial organic lesion involving only the surface of the mucosa. It followed gonorrhœa and was generally situated at the bulbo-membranous junction, and might even cause complete retention of urine. Such a stricture would often not admit a filiform bougie, yet a blunt steel sound of ordinary size might pass in many cases. The second variety was the *purely fibrous cicatricial stricture* of traumatic origin found in a urethra which had not been the seat of gonorrhœa. It might involve only the mucous membrane or extend through all the tissues of the entire thickness of the perinæum. It might be unaccompanied by gleet. It cut like true fibrous tissue. This stricture was linear or annular, but clearly defined. The third variety was the *inodular stricture*, which might supervene after a traumatism, notably in strumous subjects, especially where there had been much suppuration or multiple fistulæ. It was often found in cases of stricture following gonorrhœa. This variety was lumpy, ill-defined, irregular, tortuous—never linear. Gleet was the rule, and fistulæ might be present.

The first question which the speaker sought to answer was: *Did dilatation ever radically cure deep urethral stricture?* He had notes of cases treated by himself and by his former partner, the late Dr. Van Buren, which demonstrated the possibility of cure by dilatation. He cited a case in which the stricture had at first admitted only a No. 14 F. instrument, but after a number of months of treatment was cured, and a No. 28 easily passed. Twelve years afterward, no instrument having been passed during the interval, a No. 24 entered without meeting an obstruction. This was a soft stricture, the variety in which a radical cure was possible by dilatation. *Did electrolysis ever radically cure deep urethral stricture?* The author had expressed a decidedly negative opinion on this subject, in a paper read before the meeting of this association in Washington last year (see the Journal for October 6, 1888, p. 365), and his opinion was the same still. It seemed probable that the dilatation produced by the electrolytic instruments caused what improvement there was in the strictures so treated. *Did perineal section ever radically cure deep urethral stricture?* The term radical is suited to this operation, as experience showed, since the advantage thus gained must be maintained by means of the sound. The difference of results obtained in different cases did not wholly lie in the extent of the cutting done, but must depend much upon the quality of the tissues cut. He thought it possible that a purely fibrous stricture might be radically cured by perineal section, but that an inodular stricture usually was not.

Two comparatively recent novelties in operative methods for deep-seated stricture merited attention; they were excision of the stricture and transplantation of mucous membrane derived from some outside source. Both seemed to offer more chance of radically curing inodular stricture than any other means we now possessed. Heusner had reported in the "Berl. klin. Wochenschr." an operation in which he dissected out a strictured area two centimetres in length, including a portion of the bulbous and of the membranous urethra. The divided ends of the urethra were then found to be three centimetres apart. The anterior end was loosened from the surrounding tissues and the severed ends were drawn together and held by five points of catgut suture. A catheter was kept in place for twelve days. No sound was used. On the thirty-fourth day a No. 24 F. catheter passed easily, and a year later the patient reported himself well. Three cases of impermeable stricture had been operated by Wölfler, of Gratz, in which he excised the diseased segment and after eight days transplanted strips of mucous membrane to the roof and sides of the granulating area. The strips were cut from some convenient vagina and were several centimetres long and one or two centimetres broad. They were kept in place by a packing of iodoform gauze, no sutures being used. The bladder was carefully drained during the process of union of the graft with the surrounding tissues. A small fistula remained in each case when reported. A year after the operation one of the patients could urinate in a large jet; another could admit a No. 20 F. sound.

The speaker concluded: 1. That there were three forms of deep organic urethral stricture—the soft stricture, the purely cicatricial stricture, and the inodular stricture. 2. That soft strictures were often cured by dilatation. 3. That the fibrous stricture in patients always free from gonorrhœa might sometimes be radically cured by longitudinal section of the roof and floor of the canal at the seat of the stricture followed by the passage of sounds. 4. That inodular strictures did not seem to be radically curable by this method. 5. That inodular stricture might possibly be radically cured by total excision of the diseased tissue and suturing of the ends of the urethra; when approximation of the separated ends was impossible, transplantation of healthy mucous membrane from an outside source might be employed.

Dr. J. P. Bryson, of St. Louis, said it was only when we regarded stricture as a *pathological* condition of urethral walls that we had a correct idea of the condition in question. It was, therefore, of stricture as a disease and not as a simple narrowing of the duct that he wished to speak. In congenital narrowing of the urethra an incision would produce an enlargement which would remain, but in stricture the opening tended constantly to diminish. The term stricture is really a no more accurate expression than the term gonorrhœa was for urethritis. Inflammation, even in a chronic form, was not stricture. A mere deposit of inflammatory substance beneath the mucous membrane, not involving this membrane, would not cause stricture. The speaker proposed, therefore, to designate this disease as *chronic contracting peri-urethritis.* From this point of view we might thus exclude the microbe as a factor in the causation of this condition. Harrison, of Liverpool, had shown the true pathogeny of these submucous deposits by showing them to be formed by nature to oppose the escape of urine. It was not usual to be able to follow the natural course of this disease —its course when not interfered with surgically—but the following were the steps the pathological process naturally took: As the narrowing progressed, a dilatation of the portion of the urethra situated behind the seat of the stricture took place. The parts composing this portion were in an atrophic state and a thinning and devitalization of their tissues occurred. An ulcer began on the inferior wall of the canal, and a limited infiltration of urine occurred in the neighborhood of the ulcer. The urine finally found an exit through the skin, and a fistula was formed. The surrounding tissues began to become resistant and form the hard infiltrated walls of the fistula. How about the stricture in the mean time? It did not remain unchanged. Some portion of the urine came in contact with the posterior part of the band, stimulating the closure of the normal outlet. It seemed as though there was a battle between the urethra and the fistula for the carrying off of the urine. The behavior of the anterior part of the stricturing band was interesting to note. This band became thin, narrow, like a diaphragm placed across the urethra. The speaker had not found a broad strictural band where there existed one or more fistulous openings behind. The essential seemed to be to remove the urine from contact with the mucous membrane, and the effort of nature to close up the canal seemed clearly evident. If the effort was intended to re-enforce the urethra, the spread and increase of tissue would be eccentric as well as inward, but here the growth was toward the lumen of the urethra.

**Aphorisms on the Treatment of Urethral Stricture** was the title of a paper by Dr. A. W. Stein, of New York. After expressing regret that so many younger members of the profession should desire to operate on urethras or invent a new urethrotome to make their glory immortal, he dwelt upon the necessity of determining the patient's state of health before operating, and especially in regard to the manner in which the kidney fulfilled its function. It was also extremely important to decide whether the obstruction was a greater evil than the proposed remedy. The first proposition he offered was that gradual dilatation was unquestionably the safest way to treat urethral stricture. With this method it was unusual to observe rigors and urethral fever after operating. One objection to the method was that patients coming from a great distance often demanded a rapid cure, but the patient's life should not be jeopardized to save time. Thirdly, a urethra would support incision better, when this was necessary, if it had previously become accustomed to the passage of the dilating instruments. Fourthly, the nearer the coarctations were to the meatus, the more unyielding and resilient were they, and they were only amenable to dilating urethrotomy. It was rare that rigors and fever followed incisions near the meatus. Fifthly, the danger of internal urethrotomy increased with the distance of the stricture from the meatus. On the other hand, the nearer the stricture was to the bulbous portion of the urethra, the more dilatable it was. Dilatation should, therefore, be first thoroughly tried. Sixthly, an external incision should be made preferably to an internal incision, in strictures requiring incision, when accessible through the perinæum. Anterior strictures divided internally were rarely accompanied by unfavorable symptoms when the urine was made to escape by a perineal orifice. Eighthly, divulsion was unnecessary in the bulbous portion of the urethra, and was always dangerous, rude, and purely mechanical, requiring no surgical skill. Ninthly, the replacement of the term urethral fever by that of urinary fever was not a happy one. Urethral fever could often be proved to be a vaso-motor disturbance of reflex origin and not due to absorption of urine through a solution of continuity of the mucous membrane. Tenthly, in its results, thorough dilatation compared favorably with urethrotomy. An absolutely radical disappearance of a narrow stricture was of the rarest occurrence. In strictures of large caliber the results were more favorable by whichever method they were treated.

Dr. Watson, of Boston, related a case of stricture which had been operated upon by Dr. Cheever, who performed external urethrotomy. It was a tough fibrous stricture, extending from the bulbous portion of the urethra to the middle of the membranous portion. The stricture was incised and dilating instruments were used afterward, the last one used being a No. 29. During nine years the case was not treated in any way, and at the expiration of that time a No. 27 was easily passed, showing that the cure remained permanent. The speaker recommended external urethrotomy and the making of one clean incision on the floor of the urethra, and perhaps one on the roof of the canal.

Dr. Post, of Boston, said that many strictures of the deep urethra were not radically cured by an operation. It seemed rational that they should best be cured by external urethrotomy. If many were cured by internal urethrotomy, more still ought to be cured by the external operation, in which the sense of sight aided the sense of touch. The probability of cure must depend upon the care with which the operation was done. The threads used for sutures, if badly inserted, might cut and enlarge their passages, and contusions of the urethra might be made by bungling assistants with forceps, etc. After external urethrotomy the patients would mostly pass their urine by the normal urethra at the end of a week. The speaker then showed several charts upon which the temperature of patients having undergone external urethrotomy was traced. In most of them no rise of temperature was indicated. One patient with considerable fever after the operation experienced a fall of temperature to the normal when a urethral sound was passed, thus showing that it was not dangerous to pass a sound during urethral fever.

Dr. Arthur T. Cabot, of Boston, had seen two urethræ five weeks after the operation of divulsion had been done upon them. In one case the patient died three weeks after the operation, of Addison's disease. In both cases the strictures were pretty tight. After divulsion the sound, No. 30, passed easily, showing that the tissues were really broken. It seemed to him that divulsion was specially applicable to these soft strictures of the deep urethra, but that it was an improper operation in fibrous and inodular strictures.

The President highly recommended gradual dilatation as a means of cure. He said that any mode of treatment that added to the patient's comfort might still be used. He had seen the introduction into practice of the methods by dilating urethrotomy and by divulsion. After Dr. Otis's method of internal urethrotomy had become known, it was shortly so popular that a urethrotome might be seen sticking out of every hospital student's pocket. He thought that in the majority of cases soft stricture might be cured by gradual dilatation, if the patient and the doctor took time enough about it. It was to be regretted that the love of cutting had made the method of gradual dilatation fall into bad repute. The excellent results of gradual dilatation were shown by the report of a case that he had first seen in 1870 or 1871. The stricture had its origin in a mistake made by another practitioner, who had injected nitric acid into the patient's urethra instead of the solution he intended to use. When the speaker saw him there was a sausage-like mass of tissue, as hard as India rubber, situated between the urethra and the rectum. It was a fibrous coarctation around the urethra, and only a No. 4 or a No. 5 bougie would pass. The opening was gradually enlarged to admit a No. 20 (English) *bougie à boule*, but it required two or three years to accomplish this. The patient, who was a boy, had continued to develop, and a No. 34 could now be passed into the bladder. He had not been laid up a day since the cure was effected, over seventeen years ago. Sometimes the speaker was not satisfied with the slowness of gradual dilatation. He would then make a superficial incision of the stricture with a small urethrotome and afterward use a dilator. That method of procedure gave him much satisfaction.

Dr. Watson thought that the president had underestimated the value in which gradual dilatation was held by genito-urinary surgeons generally. As for himself, he employed dilatation ten times where he employed urethrotomy once.

Dr. Keyes did not think that Harrison's explanation of the formation of fibrous or inodular tissue was the only correct one. He thought that, over and above the chemical element in the formation of a stricture, there was also an irritative element. In follicular abscess of the urethra the urine was in contact with the seat of inflammation, yet often no inodular tissue was formed. He would not absolutely condemn divulsion; he thought that it was still defensible in certain cases of soft stricture. In one instance, while performing urethrotomy, he had incised the stricture so thoroughly that the only tissue left uncut was the skin of the penis. The patient disobeyed orders and passed his urine without the use of the catheter, producing thereby an infiltration of urine which was cured without suppuration by multiple incisions. Surgery had made so little progress in the treatment of deep urethral strictures that it was to be hoped that the procedure of cutting out the inodular tissue and replacing it by three fourths of an inch of somebody else's mucous membrane would be successful. Sometimes much difficulty was experienced in passing an instrument after external urethrotomy. In one case which the speaker had seen operated upon the perinæum was incised and a large sound was passed through the urethra to the bladder, but afterward no instrument whatever could be passed, and a fistula formed at the seat of operation. This operation had to be repeated in three or four weeks, when the perineal fistula closed. It was then found that the obstacle to the passage of a sound consisted in a fold or mucous structure upon the roof of the canal, and his custom now was never to open the urethra without feeling along the roof to see that no such fold or structure existed; if one was found it was incised.

Dr. Bryson reported a case showing the effects of urethrotomy and of divulsion on the same urethra, which was the seat of two strictures. The first stricture was situated at the distance of two inches and a half from the meatus; the second, which would admit a No. 12 French, was in the bulbous portion of the urethra. The first was cut with an Otis's urethrotome, with anæsthesia; the other one was divulsed. After two years the patient came back, when it was found that the first stricture had remained cured, while the second had recontracted. For two months the patient had been passing his urine through fistulæ, one of which opened near the umbilicus. This did not give escape to the urine in a periodical or regular manner, as the normal urethra would, but, on the contrary, the urine flowed from it whenever there was any to flow. The diaphragm-like stricture on the roof and floor of the canal was divided, but the patient died subsequently from nephritic complications. As to the question, Did dilatation ever radically cure deep urethral stricture? he believed it did, and that there were cases in which not only was the stricture got rid of, but the mucous membrane was so modified that the cure was radical. If the speaker cut a stricture, it was done invariably with the intention of dilating it afterward. In regard to the question, Did electrolysis ever cure deep urethral stricture? he said that the electrolytic action might stimulate the parts to aid dilatation. Did perineal urethrotomy ever cure stricture? It certainly did, as Dr. Keyes's cases showed. He believed that the excision of cicatricial tissue should be resorted to, and that the idea of urine-leakage as the origin of stricture led also to that conclusion.

Dr. Stein failed to see what good divulsion would do when other means of dilatation might be used. Gradual dilatation was simple, with comparatively little danger. He regretted the tendency of many of the younger men to cut and slash every urethra they came across.

Dr. Bryson remarked that gradual dilatation was the ideal method of treatment of stricture.

Dr. Post presented an anatomical specimen showing the formation of new intervening tissue after external urethrotomy. The stricture was situated in the posterior part of the membranous portion of the urethra, and on opening the canal from above, the two halves of the stricture were separated, showing the cicatricial splice resulting from the operation, which was performed seventeen days before death from an intercurrent disease.

**Primary Syphilitic Lesions at the Meatus Urinarius** was the title of a paper by Dr. Francis B. Greenough, of Boston. He said that the syphilitic lesion situated in the urethra was in different circumstances from that situated in other portions of the body in that it was frequently washed by urine. The pain caused by this might be lessened by dressings of iodoform and by immersion of the penis in tepid water. The local influence of lesions of the urethra might not cease even when they were healed, as the action of a cicatrix, of adhesions, etc., might continue indefinitely. Many lesions of the meatus might show themselves as indurations without a solution of continuity. Cases supposed to be mere examples of gleet had been sent to the speaker, who had discovered an indurated lesion of the meatus, which was soon followed by the eruption of a rich syphilitic roseola. The amount of induration varied in different cases. Often it would not extend beyond the meatus, while again it might involve the whole glans, which became resisting and cartilaginous. Not infrequently syphilis was not recognized at first because the primary lesion was not seen, being hid in the urethra. A sclerosis at the meatus acted as a stricture and might give rise to the same series of symptoms as the latter. Was it not possible for the follicular opening which was sometimes seen in a meatus that had been the seat of follicular abscess to be the seat of the primary lesion? In one case a man of thirty-five had come under the speaker's notice on account of a rash that he had. The patient did not admit the existence of any specific lesion, but the lymphatic glands of the groin were indurated, and he had chordee at night and pain on micturition. The urine was heavily loaded with pus. He was treated with mercury, and the stenosis of the meatus was gradually dilated. This treatment speedily caused a marked amelioration in the symptoms, which soon disappeared altogether. The local treatment of the lesion by means of a plug covered with mercurial ointment aided resorption of the induration. It might sometimes be necessary to resort to incision to enlarge the narrowed orifice. The chancre at the meatus might be so irritated by contact with urine as to be exceedingly difficult to recognize.

Dr. Post remarked that a true chancre must be more frequent at the meatus than chancroid. Whenever he saw a suspicious sore in that region he felt warranted in putting the patient upon an antisyphilitic treatment as soon as possible, as many unpleasant symptoms might be avoided in this manner.

In one case that had come under his observation the disease was unrecognized and the patient was treated a long time by catheterism. The use of the medicated plug in the treatment of lesions of the meatus had all the advantages that Dr. Greenough had mentioned. Sometimes it had irritated the lesion and caused unpleasantness to the patient, but in these cases it was probable that the plug had not been well applied.

Dr. **Bryson** remarked that, from what had been said some time before, it might be thought that stricture near the meatus was a rather insignificant affair, but he thought it was often a very serious matter. It was well known that syphilitic lesions had little disposition toward ulceration, but the speaker recalled a case in which a stricture was caused by what was called a chancroid with ulceration, but which might have been a syphilitic lesion, as that was so much more common. The patient was found dead seated over a bucket of water, having evidently tried to evacuate the bladder. The autopsy showed that death was due to heart-failure.

Dr. E. E. **King**, of Toronto, related a case of lesion of the meatus in a young man who could not pass his urine well. He found the meatus very small and performed urethrotomy. Shortly afterward, symptoms of constitutional syphilis occurred.

Dr. **Cabot** had had a patient with a similar stricture which on one occasion was accompanied by a violent urethral fever. No operation was performed, but constitutional treatment was directed against his syphilis and brought relief.

The **President** reported having observed six cases of venereal lesion at the meatus, only one of which was chancroid. He thought that the proportion of one to six was a large proportion for chancroids. Sometimes the lesions of this region took the form of exuberant growths, but the condition of the parts was such that this was rarely seen. As a rule, Jews with small meatuses had urethral chancre oftener than Gentiles. When the meatus was small and the lesion great, the discharge from a syphilitic lesion in the urethra could not be distinguished from gonorrhœa otherwise than by the gonococci, which might or might not be present, according to the case.

Dr. **Greenough** agreed with Dr. Post in regard to the difficulty of making a correct diagnosis in these cases. The mere fact that the lesion was situated at the meatus would lead the speaker to regard it as syphilitic, as cases of chancroid seemed to be getting rare. He would not incise this sort of stricture if he could avoid it.

**Induration of Venereal Sores not always an Indication that Constitutional Syphilis will Follow.**—A paper with this title, written by Dr. **Edwin C. Burnett**, of St. Louis, was read by Dr. Bryson in the absence of the author. The author stated that there were sores that presented the aspect of the Hunterian chancres that were not followed by induration of the lesion, and also that certain indurated sores of venereal origin were not followed by signs of constitutional syphilis. In one case a physician had presented himself for examination with a typical indurated chancre situated in the sulcus coronarius. At first this lesion was only an excoriation, but it progressively increased in extent and in depth. The patient had done nothing to the sore beyond keeping it clean. The lymphatic glands in the left groin were hard and enlarged. The author prescribed simply lotions with a twenty-per-cent. solution of salicylic acid. At the end of three months the enlargement of the glands of the groin disappeared, but no signs of constitutional syphilis had yet made their appearance. The lesion had been observed sixteen months ago. Another physician had a suspicious intercourse which was duly followed by a typical lesion presenting the usual characteristics of an infecting chancre. After five months he showed no signs of syphilis, although no specific treatment had been used. Finger had attempted to explain the occurrence of such induration of non-syphilitic sores by invoking a peculiar arrangement of the blood-vessels of the region, or a local artificial irritation of the lesion. The author did not believe that induration took place by local irritation when the syphilitic virus was not present.

Dr. **Post** could not believe it possible for a true primary syphilitic lesion not to be followed by constitutional syphilis. He cited the case of a little girl who had been criminally assaulted by a man for sexual purposes. A short time after the event the girl had a local lesion which the attending physician pronounced to be syphilitic. No care was given to the lesion, however, except cleanliness. Syphilis, notwithstanding, did not develop in the child, and the physician could not swear in the suit, as he expected to do, that the child had received syphilis from the assault. He also stated that there were some indurated lesions that were not syphilitic.

Dr. **Greenough** narrated a case resembling that of Dr. Post, and said that syphilitic lesions had often existed which had eluded observation.

Dr. **Keyes** said that the symptoms of syphilis were so varied and irregular that it was no wonder that specific lesions were often unrecognized. There were sores which could not be considered as other than typical, yet they were not followed by signs of constitutional syphilis. In one case of his the appearance of the lesion "would have deceived the very elect." There were a slight erosion, a slight oozing, and a positive induration under the lesion, but there was no invasion of the inguinal glands. Two years passed without the showing of the least constitutional symptom.

Dr. **Stein** also reported a typical case of Hunterian chancre in the female which in nine months was followed by no other sign of general infection than a mucous patch on the tonsil.

The **President** said he was sorry to see that the author of the paper was convinced of the mutability and the fallibility of natural processes by two adverse cases. It was rather an instance of the fallibility of man than that of nature. There was no doubt that non-syphilitic induration sometimes occurred. The usual seat of such induration was the balano-preputial sulcus, the depression or fossette on each side of the frenum, and occasionally on the muco-cutaneous border of the prepuce. In certain non-syphilitic cases of balanitis there were sometimes formed plaques of indurated tissue beneath the surface of the glands which might easily be mistaken for syphilitic indurations. The tendency of syphilitic lesions was to condense into sclerosis.

Dr. **Bryson** remarked that Dr. Burnett had evidently meant to accentuate the idea that there were indurated lesions that were not syphilitic. He did not believe that any positive rule could be laid down in this matter, because the same virus produced such different appearances in different persons. The discovery of the microbe of syphilis seemed to him to be the only way to solve the problem.

The **President** cited a case which had at first appeared quite remarkable and seemingly in contradiction to well-established clinical facts concerning the period of incubation of syphilis. In 1870 he had had a patient in whom the primary chancre occurred *within forty-eight hours* after a single intercourse with one woman. Careful and repeated questioning could not elicit evidence of any other sexual connection than the one admitted by the patient. The chancre was situated at the meatus. The case was shown to the late Dr. Bumstead, and its history made known to him, when he said: "It is a very nice case; but one case in the hands of one man is not going to contradict the general opinion in regard to this question." The patient, who was a Jew, returned after a certain lapse of time with an excoriation on the back of the glans which extended also on to the dorsum of the penis. Here the patient admitted having had connection with a woman *per os*. The speaker recalled the patient's former chancre, and instantly concluded that it was obtained in the same way as this excoriation. Upon being questioned, the patient admitted having had such connection by the mouth about *three weeks* before the chancre appeared, and the seeming unusually short period of incubation was thus clearly explained.

**Primary Melano-sarcoma of the Vulva.**—The President read a paper with this title. (To be published.)

Dr. Stein remarked that the question before the meeting was the relation of melanosis to malignant growths. He doubted whether the president's case was one of melano-sarcoma.

The President said: Look at the preparations from the tumor under the microscope over there in the window.

Dr. Stein knew that the tumor contained spindle-shaped cells with melanotic matter, but the life-history in the cases cited by the president was longer than that of sarcoma in general. This was indeed variable in man, but not so in the lower animals, as in horses the melanomatous masses persisted a very great length of time.

Dr. Keyes had always supposed that the association of melanotic pigment with a neoplasm indicated a highly malignant nature of the new growth.

Dr. Cabot thought it better to excise the tumor with a clean cut rather than to enucleate it by the method described by the president, as the danger of its return might thus be more surely avoided.

The President replied by saying that there were two kinds of pigmented tumors found in the human organism; one was sometimes observed in the nervous system, and consisted simply of a deposit of pigment without malignant cells; the other was the melano-sarcoma or the melano-carcinoma. Terrillon had stated in his histories that the melanotic tumors were accompanied by pigment granules in the blood. These tumors were often unaccompanied by digital prolongations into the underlying tissues, as in ordinary epitheliomata, but, on the contrary, they might often be easily enucleated with the thumbnail or with the handle of the scalpel, leaving the surface of the wound as smooth as the palm of the hand.

**The Relation of the Prostate to Chronic Urethral Discharge.**—This paper, by Dr. J. William White, of Philadelphia, was read by the secretary. Speaking of the posterior portion of the urethra, the author said that Ultzmann had long ago described the prostatic urethra as the true neck of the bladder, which he would include between two sphincters, the internal at the vesical orifice, the external being the compressor urethræ. He believed the latter to be much more powerful in its resistance either to fluid injected from without or to the passage of urine or other liquids from within outward, and he thought that discharges which appeared at the meatus were due to the existence of inflammation somewhere in front of the triangular ligament, while those found in the urine were to be referred to inflammation posterior to that point. Of the general truth of these views there could be no question. The author believed, however, that the compressor urethræ did not form an absolute barrier to the escape of discharges originating behind it. He then cited several authorities to show that follicular prostatitis, hypertrophy of the prostate, and one or two other affections of this gland, often produced a slight discharge at the meatus. The chief diagnostic points in a chronic gleet due to some affection of the prostate were the following: 1. Undue frequency of micturition with pain felt at or near the end of the penis at the conclusion of the act. 2. The feeling of weight or fullness in the perinæum and rectum, especially during the passage of hardened fæces. 3. Diminution in the force of the stream of urine associated with dribbling toward the end of the act. 4. The first portion of urine passed, if collected in a glass, would be found more turbid than the second portion. 5. The sediment in the urine would be found to consist of prostatic epithelium, muco-pus, and a few mucous shreds, often casts of the follicles and prostatic ducts. 6. There was often associated with these conditions a certain amount of sexual excitability, frequent erections, and premature ejaculations during attempts at intercourse. In addition to the various well-known methods of treatment, he recommended the application of cold in the form of a jet of water, and the employment of massage. He prescribed the persistent and thorough use of the bidet at least twice daily—once after the evacuation of the bowels and once upon going to bed. It was well at both these times to wash out the rectum with warm or tepid water and then to employ the cold jet directed against the perinæum. The patient should spend as much time as possible in the recumbent posture.

**The Treatment of Gonorrhœa and Gonorrhœal Cystitis.**—Dr. Edward R. Palmer, of Louisville, had prepared a paper on this subject, which was read in his absence by the secretary. He had recently treated fifty-five cases of gonorrhœa in which the average duration of treatment producing a cure had been 45·18 days. All these cases were in private out-patients. The results, to his mind, were highly favorable to the "mixed" method of treatment. The plan was practiced as follows: Hot irrigation with a nozzle, except in cases of high inflammation, beginning with solutions of bichloride of mercury as weak as 1 to 30,000, increasing gradually in obedience to personal idiosyncrasies, with citrate of potassium internally, a teaspoonful every few hours. The irrigation should be made with from thirty to sixty ounces of the solution twice daily.

When the acute inflammatory process was passed, the "mixed" method should be used. This was employed by the patient, using a 1-to-500 solution of zinc sulphate in a siphon with seven feet head (the solution to be placed in a receptacle seven feet higher than the penis), to be ballooned with half an ounce or more of the solution of zinc by placing the nozzle of the siphon against the meatus. In most cases two such treatments daily, with the internal treatment, would effect a cure in three or four weeks. Experience showed that the bichloride of mercury in solution was the best drug for urethral irrigation. In these fifty-five cases the bladder had been partly filled in some instances, and the absence of all untoward complications, such as prostatitis, epididymitis, and cystitis, proved the safety and also the prophylactic power of this treatment.

**An Unusual Form of Vesical Calculus.**—Dr. George Chismore, of San Francisco, had sent a paper with this title. (To be published.)

**The Toxic Action of Chromic Acid used as a Cauterant.**—Dr. J. William White, of Philadelphia, had sent a paper with this title, to be read. For years he had been in the habit of using the above-named agent in obstinate cases of recurrent vegetations upon the genitals. Although such papillary growths sometimes accompanied specific discharges from the genitals and ulcers of venereal origin, yet they were not dependent upon the specific poisons of these diseases, and were often found upon persons in no way affected with any venereal taint. A young woman, an inmate of the venereal wards of the Philadelphia Hospital last October, had a mass of vegetations of this nature covering the labia majora and nymphæ, extending up toward the pubes and down toward the anus. This mass was several inches thick. After two weeks of treatment by cold poultices and water dressings, the application of chromic acid was ordered. The solution used contained 100 grains to the ounce of water. About half an ounce of the liquid was used, the vagina and anus being protected by tampons of cotton soaked in carbolized oil. After this single application the patient passed a restless night, and called frequently for water. At 4 P. M. she rose to urinate and fell; she was carried to bed and slept three hours. Thirst continued all the morning without fever, and nausea supervened. At 3 A. M. she was pale, with cold extremities, pain in the left hypochondriac region, and fear of approaching death. The axillary temperature was 99° F. Active treatment failed to benefit her, and she died at 6.30 P. M., twenty-seven hours after the application of the acid. Intellection was preserved to the last. Little was found macroscopically at the autopsy. The stomach was distended and its mucous membrane showed numerous fine ecchymoses, the result of vomiting. The biliary ducts were patulous. The liver was small and weighed forty ounces; a section showed the nutmeg change. The gall-bladder was distended with a very dark-colored secretion. The spleen was flabby and pale and weighed five ounces. The kidneys were the seat of passive congestion, and their capsules were easily stripped off. Section of the vagina showed the mucous membrane dark-red in color, covered with yellowish discharge, with no evidences of contact of the acid. The membranes and chorioid plexus of the brain were injected. Dr. John Marshall had analyzed the viscera with the following results: The kidneys and liver contained chromium, probably sodium chromate, which was poisonous in doses of from one to three grains. The rectus muscle was free from chromium. The chromic acid had probably combined with the sodium carbonate of the blood to form sodium chromate. The sudden death in this case, the author continued, was surprising, as the text-books contained no word of warning against the dangers of using chromic acid, while recommending its employment. Gubler, however, in the "Gazette méd. de Paris," 1871, had said that the absorption of chromic acid was not free from danger, and patients had been poisoned by a too extensive application to the surface of their bodies.

(*To be concluded.*)

## NEW YORK NEUROLOGICAL SOCIETY.

*Meeting of May 7, 1889.*

The President, Dr. GEORGE W. JACOBY, in the Chair.

**State Care versus County Care of the Insane** was the subject of the annual address, which was delivered by the President. (See page 589.)

**Pachymeningitis Hæmorrhagica Interna.**—Dr. G. R. ELLIOTT presented an anatomical specimen of a case of this disease, taken from the body of a laborer sixty-five years old, admitted on March 27th into the Randall's Island Hospital, in a semi-conscious condition. He lay with his head thrown backward and to the right, the left eye closed, the right partly open. When loudly spoken to he would open the left eye. His pupils were markedly contracted, his respiration was labored, urine and fæces were passed involuntarily, the tendinous reflexes were exaggerated, and the muscles of his legs were rather rigid. Death occurred on March 31st, the temperature having been at 102·5° F. for several days. The necropsy showed old lesions of the right lung and pleura, of the endocardium and aortic valves, of the liver (incipient cirrhosis), and of the kidneys (chronic diffuse nephritis). The dura mater on the right side of the brain was of a sallow appearance and showed, when incised, the presence of an apparently recent extravasation of blood into its substance, which was here separated into two layers. This mass was bounded anteriorly by a vertical plane at the middle of the frontal lobe, posteriorly by the parieto-occipital fissure, medially by the median fissure, and laterally by the fissure of Sylvius. Its greatest thickness was one fourth of an inch; its edges were gradually lost in the normal dura. The external layer of the dura was but slightly adherent to the skull; the internal layer was easily detached from the pia mater. The surface of the right hemisphere was notably depressed, especially in the anterior third of the parietal region.

Upon transverse section of the tumor, the dura showed itself lined internally by a membrane of new formation, whose circumference was limited by that of the clot. No examination relative to the presence or absence of the decussation of the anterior pyramids had been made in this case. Dr. Elliott believed the process of formation of this lesion to have been inflammatory.

Dr. HERTER said it was difficult to decide what the condition really was in the majority of cases, but that he thought the new membrane was formed secondarily in the same manner as connective tissue generally.

**The Place that Naupathia or Seasickness should occupy in Nosology.**—Dr. W. W. SKINNER read a paper with this title. (See page 626.)

## Miscellany.

**Report on the Prevention of Tuberculosis to the Board of Health of New York City.**—The disease known as tuberculosis, and when affecting the lungs, as pulmonary tuberculosis (consumption), is very common in the human being and in certain of the domestic animals, especially cattle. About one fourth of all deaths occurring in the human being during adult life are caused by it, and nearly one half of the entire population at some time in life acquire it. The disease is the same in nature in animals and in man, and has the same cause.

It has been proved beyond a doubt that a living germ, called the tubercle bacillus, is the cause and the only cause of tuberculosis. It does not seem necessary to state the facts upon which this assertion is based, for the observation first made by Robert Koch in 1882 has been confirmed so often and so completely that it now constitutes one of the most absolutely demonstrated facts in medicine.

Tuberculosis may affect any organ of the body, but most frequently first involves the lungs. When the living germs find their way into the body they multiply there, if favorable conditions for their growth exist, and produce small new growths or nodules (tubercles) which tend to soften. The discharges from these softened tubercles, containing the living germs, are thrown off from the body. In pulmonary tuberculosis these discharges constitute, in part, the expectoration. The germs thus thrown off do not grow outside the living human or animal body, except under artificial conditions, although they may retain their vitality and virulence for long periods of time, even when thoroughly dried. As tuberculosis can only result from the action of these germs, it follows, from what has just been said, that, when the disease is acquired, it must result from receiving into the body the living germs that have come from some other human being or animal affected with the disease.

It has been abundantly established that the disease may be transmitted by meat or milk from tuberculous animals. The milk glands in milch cows often become affected with the disease when their lungs are involved, and the milk from such animals may contain the living germs and is capable of producing the disease. Among stall-fed dairy cows twenty or thirty per cent. are sometimes found to be affected with the disease. Tuberculous animals are also frequently killed for food; their flesh sometimes contains the germs, and, if not thoroughly cooked, is capable of transmitting the disease. Boiling the milk or thoroughly cooking the meat destroys the germs. Although the meat and milk from tuberculous animals constitute actual and important sources of danger, the disease is acquired, as a rule, through its communication from man to man.

Tuberculosis is commonly produced in the lungs (which are the organs most frequently affected) by breathing air in which the living germs are suspended as dust. The material which is coughed up, sometimes in large quantities, by persons suffering from consumption contains these germs, often in enormous numbers. This material when expectorated frequently lodges in places where it afterward dries, as on the streets, floors, carpets, clothing, handkerchiefs, etc. After drying, in one way or another, it is very apt to become pulverized and float in the air as dust. It has been shown experimentally that dust collected from the most varied points—in hospital wards, asylums, prisons, private houses, etc., where consumptive patients are present or have been present—is capable of producing tuberculosis in animals when used for their inoculation. Such dust may retain for weeks its power of producing the disease. On the other hand, dust collected from rooms in institutions or houses that have not been occupied by tuberculous patients does not produce the disease when used for the inoculation of animals. These observations show that, where there are cases of pulmonary tuberculosis, under ordinary conditions, the dust surrounding them often contains the tubercle bacilli; and persons inhaling the air in which this dust is suspended may be taking in the living germs. It should, however, be distinctly understood that the breath of tuberculous patients and the moist sputum, received in proper cups, are not elements of danger, but only the dried and pulverized sputum. The breath and moist sputum are free from danger, because the germs are not dislodged from moist surfaces by currents of air. If all discharges were destroyed at the time of exit from the body, the greatest danger of communication from man to man would be removed.

It then follows, from what has been said, that tuberculosis is a distinctly preventable disease.

It is a well-known fact that some persons, and especially the members of certain families, are particularly liable to tuberculosis, and this liability can be transmitted from parents to children. So marked and so frequent is this liability, and so frequent is the development of the disease in particular families, that the affection has long been considered hereditary. We know that tuberculosis can only be caused by the entrance of the germ into the body, and that this transmitted liability simply renders the individual an easier prey to the living germs when once they have gained entrance.

The frequent occurrence of several cases of pulmonary tuberculosis in a family is, then, to be explained, not on the supposition that the disease itself has been inherited, but that it has been produced after birth by transmission directly from some affected individual. Where the parents are affected with tuberculosis, the children from the earliest moments of life are exposed to the disease under the most favorable conditions for its transmission, for not only is the dust of the house likely to contain the bacilli, but the relationship also between parents and children, especially between the mother and the child, are of that close and intimate nature especially favorable for the transmission by direct contact.

If, then, tuberculosis is not inherited, the question of prevention resolves itself principally into the avoidance of tuberculous meat and milk and the destruction of the discharges, especially the sputum, of tuberculous individuals. As to the first means of communication, those measures of prevention alone answer the requirements which embrace the governmental inspection of dairy cows and of animals slaughtered for food and the rigid exclusion and destruction of all those found to be tubercular.

For the removal of the second means of communication—*i. e.*, the sputum of tubercular individuals—the problem is simple when the patients are confined to their rooms or houses; then wooden or pasteboard cups with covers should always be at hand for the reception of the sputum. These cups are supported in simple racks, and at least once daily, or more frequently if necessary, should be removed from the racks and thrown with their contents into the fire.*

The disposition of the expectoration of persons who are not confined to their rooms or homes is a far more difficult problem. The expectoration certainly should not be discharged on the street, and the only practicable means for its collection seems to be in handkerchiefs, which, when soiled, should at the earliest possible moment be soaked in a five-per-cent. solution of carbolic acid and then boiled and washed. Handkerchiefs thus soiled are exceedingly dangerous factors in distributing tubercle bacilli, for when the sputum becomes dry it is easily separated in flakes from the cloth, and then soon becomes pulverized and suspended as dust.

It becomes evident, from what has been said, that the means which will most certainly prevent the spread of this disease from one individual to another are those of scrupulous cleanliness regarding the sputum. These means lie largely within the power of the affected individual. It is furthermore to be remembered that consumption is not always, as was formerly supposed, a fatal disease, but that it is in very many cases a distinctly curable affection. An individual who is well on the road to recovery may, if he does not with the greatest care destroy his sputum, diminish greatly his chances of recovery by self-inoculation.

While the greatest danger of the spread of the disease from the sick to the well is in private houses and in hospitals, yet, if this danger is thoroughly appreciated, it is, for the most part, quite under control, through the immediate destruction of the sputum and the enforcement of habits of cleanliness. But in places of public assembly, such as churches and theatres, particularly the latter, the conditions are different, and safety would seem to depend largely upon a dilution and partial removal of the floating and possibly dangerous dust by means of adequate ventilation. Rooms in private houses and hospital wards that are occupied by phthisical patients should from time to time be thoroughly cleaned and disinfected, and this should always be done after they are vacated, before they are again occupied by other individuals. Steamship companies should be obliged to furnish separate apartments for consumptive persons, so that no person in the exigencies of travel need be forced to share his room with one who might be a source of active danger to him.

We desire to especially emphasize the following facts: 1st, that tuberculosis is a distinctly preventable disease; 2d, that it is not directly inherited; and 3d, that it is acquired by the direct transmission of the tubercle bacillus from the sick to the healthy, usually by means of the dried and pulverized sputum floating as dust in the air.

The measures, then, which are suggested for the prevention of the spread of tuberculosis are: 1st, the security of the public against tuberculous meat and milk, attained by a system of rigid official inspection of cattle; 2d, the dissemination among the people of the knowledge that every tuberculous person may be a source of actual danger to his associates, if the discharges from the lungs are not immediately destroyed or rendered harmless; and 3d, the careful disinfection of rooms and hospital wards that are occupied or have been occupied by phthisical patients.

[Signed.]
Hermann M. Biggs,
T. Mitchell Prudden,
Henry P. Loomis,
*Pathologists to the New York City Health Department.*

**The Ohio State Medical Society** held its forty-ninth annual meeting at Youngstown on the 22d, 23d, and 24th of May, under the presidency of Dr. P. S. Connor, of Cincinnati. Dr. John C. Reeve, of Dayton, read a paper on "The Early Diagnosis of Extra-uterine Pregnancy"; Dr. Max Thorner, of Cincinnati, one on "Chronic Painful Affections of the Throat"; Dr. A. B. Thrasher, of Cincinnati, one on "Laryngeal Phthisis"; Dr. Orpheus Evarts, of College Hill, one on "The Natural and the Supernatural in Medicine"; Dr. Henry S. Upson, of Cleveland, one on "Localization in Diseases of the Spinal Cord"; Dr. Rufus B. Hall, of Cincinnati, one on "Abdominal Section for Inflammatory Diseases"; Dr. J. A. Battles, of Youngstown, a poem entitled "The Physician and Surgeon"; Dr. A. R. Baker, of Cleveland, a paper on "The Ætiology, Prognosis, and Cure of Incipient Cataract without Operative Interference"; Dr. G. M. Allen, of Cleveland, one on "Injuries to the Head"; Dr. John McCurdy, of Youngstown, one on "Pressure as a Remedial Agent"; Dr. R. A. Vance, of Cleveland, one on "Intestino-vaginal Fistula"; Dr. George Goodhue, of Dayton, one on "Trephining"; and Dr. H. J. Herrick, of Cleveland, one on "Modern Theories of Tubercle, and Therapeutic Tests." Officers for the ensuing year were elected as follows: President, Dr. John McCurdy, of Youngstown; vice-presidents, Dr. W. J. Conklin, of Dayton, Dr. A. W. Ridenour, of Massilon, Dr. C. W. Tangeman, of Cincinnati, and Dr. J. E. Woodbridge, of Youngstown; secretary, Dr. G. A. Collamore, of Toledo; assistant secretary, Dr. E. C. Brush, of Zanesville; treasurer and librarian, Dr. T. W. Jones, of Columbus. It was voted to hold the next annual meeting at Columbus, beginning on the first Wednesday in June, 1890.

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* A cheap and efficient cup answering this purpose is now on the market and is supplied by the druggists.

**Exophthalmic Goitre at the Salpetriere.**—The following is a translation, by Louise Fiske Bryson, M. D., of an article that appeared in the "Gazette hebdomadaire de médecine et de chirurgie" for March 22, 1889: At Charcot's clinic of January 22d there was presented a weak, emaciated man, attacked with tremor, in consequence of grief, the tremor being equally fine and rhythmic throughout all the muscles of the body, resembling somewhat the process known as shivering with cold. The heart-beats were from 120 to 130, and the temperature from 37° to 38° C. (98·6° to 100·4° F.). As in tuberculosis, profuse sweating existed, also profuse diarrhœa, another point of resemblance to the same disease. The patient stated that, without vertigo or loss of consciousness, he would sometimes fall while walking. The legs would give out under the weight of the body, just as in locomotor ataxia, without, however, any of the lightning-like pains of the latter disorder accompanying the fall. M. Charcot considered this special condition of weakness to be the beginning of a paralysis, peculiar to Basedow's disease, in which the reflexes are slight and the paraplegia circumscribed, being in fact a kind of paresis of the lower limbs.

Another case of exophthalmic goître, that of a woman, presented a train of symptoms that might possibly be considered evidences of tuberculosis. There were fever, cough, sweats, and diarrhœa. In a thesis inspired by Professor Renaud and defended at Lyons, elevation in temperature is proved to exist always in exophthalmic goître; but, in spite of strong indications, tuberculosis does not develop. This patient was also subject to sudden loss of power in the legs. A case was referred to of the simultaneous appearance of exophthalmic goître and hysteria, and the professor called attention to the close relation and frequent coincidence of these two neuroses. The complex of symptoms known as Basedow's disease may be tabulated as follows: First Order—*Cardinal Symptoms.*—Tachycardia (asystolic), goître, exophthalmia, and tremor. Second Order—*Secondary Symptoms.*—*a.* Digestive: Vomiting, characteristic diarrhœa, sudden and excessive hunger, and icterus. *b.* Respiratory: Cough, frequent respiration, and symptoms of angina pectoris. *c.* Motor: Paralyses, Von Graefe's symptom, impossibility of convergence (Möbius), convulsions, and epileptoid attacks. *d.* Psychic: The characteristic mental state. *e.* Cutaneous: Urticaria, pigmentation, vitiligo, perspiration, heat, and diminution of electrical resistance. *f.* Urinary: Polyuria, albuminuria, glycosuria. *g.* Genital: Impotence and menstrual disturbances. *h.* General: Profound anæmia, cachexia, œdema, and final asystole.

**The German Dermatological Society** will hold its first meeting in Prague, on the 11th and 12th inst. The programme includes the following items: "Contributions on Lepra, with the exhibition of Plaster Casts," by Dr. Arning, of Hamburg; "Remarks on the Hairs in Alopecia Areata, with the exhibition of Microscopical Preparations," by Dr. Behrend, of Berlin; "On the Initial Signs of Hereditary Syphilis," by Dr. Caspary, of Königsberg; "Further Contributions to the Subject of Orchitis Variolosa" and "On Polypoid Cutaneous Outgrowths of the Rhaphe Perinæi," by Dr. Chiari, of Prague; "On Xanthoma Tuberosum, with Microscopical Preparations," by Dr. Epstein, of Nuremberg; "Remarks on the Regurgitation of Pus from the Posterior Part of the Urethra into the Bladder, with a Demonstration," by Dr. Finger, of Vienna; "On the Domestic Treatment of Syphilis in Bosnia and Herzegovina," by Dr. Glück, of Zenica; "On Dermatitis Herpetiformis," by Dr. Ittmann, of Breslau; "On the Gonorrhœal Vulvitis of Prostitutes," by Dr. Jacobi, of Breslau; "On Urethritis Posterior" and "A Demonstration of Favus Cultivations," by Dr. Jadassohn, of Breslau; "On Acute Circumscribed Œdema of the Skin and Paroxysmal Hæmoglobinuria," by Dr. Joseph, of Berlin; "Remarks on the most recent Epidemic of Zoster," "On a Fatal Case of Acute Mercurial Poisoning from the Subcutaneous Injection of Oleum Cinereum, with Microscopical Preparations," and "A Case of Acute Development of Lepra Anæsthetica in a Syphilitic Person," by Dr. Kaposi, of Vienna; "On Prodromal Localized Syphilides" and "A Word in favor of the Endoscopic Treatment of Chronic Gonorrhœa," by Dr. Klotz, of New York; "On the Microphytes of the Skin and Explanatory Remarks on their Bacteriological Exposition," by Dr. Kral, of Prague; "The Ætiology and Treatment of Psoriasis" and "The Use of Preparations of Ichthyol in Dermatological Practice," by Dr. Kopp, of Munich; "On the Keratohyalin Question," by Dr. Lazansky, of Prague; "On the Collateral Effects of Injections of Insoluble Preparations of Mercury," by Dr. Lesser, of Leipsic; "On Leucoderma Syphiliticum, with special reference to its Ætiology and to the Significance of the Pigment," "The Minute Anatomy of the Skin, with a Pictorial Representation," and "On Relapses of Syphilis after Various Modes of Treatment," by Dr. Lewin, of Berlin; "Dermatological Contributions," by Dr. Lipp, of Graz; "On Bacterial Inflammation of the Hair-follicles, a hitherto undescribed Form of Alopecia, with Microscopical Preparations" and "Is a Special Place in the Pathology of Syphilis to be assigned to the Lichenoid Syphilides? with Microscopical Preparations," by Dr. Michelson, of Königsberg; a report on "The Significance of the Gonococcus in Diagnosis and Treatment," "On the Structure of the Bacilli of Lepra and Tuberculosis, with special reference to Rosaniline and Pararosaniline as Staining Agents," and "On Lepra Cells," by Dr. Neisser, of Breslau; "On the Recognition of the Clinical and Histological Changes in Diseases of the Vaginal Mucous Membrane," by Dr. Neumann, of Vienna; "The Pathology and Treatment of Eczema," "Urticaria Pigmentosa," and "Melanosis Lenticularis Progressiva" (each with the exhibition of patients), by Dr. Pick, of Prague; "The Morbid Changes in the Neighboring Lymphatic Glands in Primary Tuberculosis of the Skin" and "The Histological Appearances in Urethritis Externa," by Dr. Richter, of Prague; "Examinations of the Gonococci and Diplococci of the Urinary Passages," by Dr. Steinschneider and Dr. Galewsky; "Gonorrhœal Vulvo-vaginitis," by Dr. Steinschneider, of Franzensbad; "The Causes and Nature of Rhinoscleroma," by Mr. Squire, of London; "The Quantitative Determination of Mercury and its Value in the Mercurial Treatment of Syphilis by Various Methods," by Dr. Winternitz, of Prague; and "On the Toxic Effects of Various Mercurial Preparations," by Dr. Zeising, of Breslau.

**The "Journal of the American Medical Association."**—An edition of 70,000 copies was recently printed, enough to enable our excellent contemporary to bring itself to the notice of almost every physician in the country.

**The North Texas Medical Association** will hold its next semi-annual meeting in Paris, on the 11th, 12th, and 13th inst., under the presidency of Dr. J. T. Wilson. The programme includes the following papers: "The Treatment of Diseases of the Cæcum and its Appendix," by Dr. Bacon Saunders, of Bonham; "Surgical Interference in Mastoiditis," by Dr. J. H. Smith, of Dallas; "The Mortality of Amputations," by Dr. W. F. T. Savage, of Mt. Pleasant; "Lacerated Cervix Uteri," by Dr. J. F. Hooks, of Paris; "Lacerated Perinæum," by Dr. S. F. King, of Bells; "Puerperal Eclampsia," by Dr. R. R. Walker, of Paris; "Dysentery," by Dr. V. A. Howeth, of Gainesville; "The Use of the Microscope in the Diagnosis of Disease," by Dr. F. E. Yoakum, of Greenville; and "Cerebro-spinal Meningitis," by Dr. T. G. Bates, of Anna.

**The Medical Society of New Jersey.**—The one hundred and twenty-third annual meeting will be held at Asbury Park, on Tuesday and Wednesday, June 18th and 19th. The programme includes the following papers: "Retrospection of the Medical Society of New Jersey, with some Suggestions as to its Improvement," annual address by the President, Dr. H. G. Taylor, of Camden; discussions upon subjects presented at the last annual meeting: "Perityphlitis, its Diagnosis, Pathology, and Treatment," the discussion to be opened by Dr. J. G. Ryerson; "The Advantages and Disadvantages of Intubation of the Larynx, in Lieu of Tracheotomy," the discussion to be opened by Dr. W. U. Selover, of Rahway; "The Revived Use of Calomel, with Especial Reference to its preventing Plastic Exudation," the discussion to be opened by Dr. J. D. Osborne, of Newark; "The Inheritance of Disease," by Dr. E. J. Marsh, of Paterson; "Some Recent Advancements in Pelvic Surgery," by Dr. H. M. Weeks, of Trenton; "The Value of Creasote in Fifty Cases of Chronic Disease of the Air Passages," by Dr. W. P. Watson, of Jersey City. Committees will also report on "The Propriety of Establishing State Board Examiners," Dr. C. F. J. Lehlbach, chairman; and "To Secure such Modification of the State Laws as may be necessary to Permit and Regulate the Practice of Dissection within the State," Dr. J. P. Davis, chairman.

**The Rush Monument Committee** gives notice that it will meet in the right gallery room at Music Hall, Newport, R. I., on Tuesday, June 25th, at 1 P. M., or immediately after the adjournment of the morning session of the American Medical Association. The attendance of others interested in the project is invited. Collections and subscriptions should be forwarded to the treasurer, Dr. Joseph M. Toner, 615 Louisiana Avenue, Washington, D. C., before June 15th.

**Vital Statistics for the Eleventh Census.**—The superintendent of the census has issued the following circular to the medical profession, dated May 1, 1889:

"The various medical associations and the medical profession will be glad to learn that Dr. John S. Billings, Surgeon, U. S. Army, has consented to take charge of the Report on the Mortality and Vital Statistics of the United States as returned by the Eleventh Census. As the United States has no system of registration of vital statistics, such as is relied upon by other civilized nations for the purpose of ascertaining the actual movement of population, our census affords the only opportunity of obtaining near an approximate estimate of the birth and death rates of much the larger part of the country, which is entirely unprovided with any satisfactory system of State and municipal registration. In view of this, the Census Office, during the month of May this year, will issue to the medical profession throughout the country "Physician's Registers" for the purpose of obtaining more accurate returns of deaths than it is possible for the enumerators to make. It is earnestly hoped that physicians in every part of the country will co-operate with the Census Office in this important work. The record should be kept from June 1, 1889, to May 31, 1890. Nearly 26,000 of these registration books were filled up and returned to the office in 1880, and nearly all of them used for statistical purposes. It is hoped that double this number will be obtained for the Eleventh Census. Physicians not receiving Registers can obtain them by sending their names and addresses to the Census Office, and, with the Register, an official envelope which requires no stamp will be provided for their return to Washington. If all medical and surgical practitioners throughout the country will lend their aid, the mortality and vital statistics of the Eleventh Census will be more comprehensive and complete than they have ever been. Every physician should take a personal pride in having this report as full and accurate as it is possible to make it. It is hereby promised that all information obtained through this source shall be held strictly confidential."

**The New Hampshire Medical Society.**—The ninety-eighth annual meeting will be held at Concord on Monday and Tuesday, June 17th and 18th. The following papers are included in the programme: "Physical Culture," by Dr. A. P. Chesley, of Concord, the discussion to be opened by Dr. G. Cook, of Concord; "Report on Surgery," by Dr. M. W. Russell, of Concord, the discussion to be opened by Dr. J. J. Berry, of Portsmouth; "Use of Antiseptics by Country Surgeons," by Robert Burns, of Plymouth, the discussion to be opened by Dr. L. G. Hill, of Dover; "Pneumonia: its Ætiology and Differential Diagnosis," by Dr. F. T. Moffett, of Littleton; "Pneumonia: its Mortality and Therapeutics," by Dr. W. B. Porter, of Walpole, the discussion to be opened by Dr. Thomas Hiland, of Concord; Report of the Committee on Necrology, by Dr. J. J. Berry, of Portsmouth; "The Use and Abuse of Narcotics and Alcoholics," by Dr. William Child, of New Hampton, the discussion to be opened by Dr. D. S. Adams, of Manchester; "Disposal of Garbage," by Dr. G. P. Conn, of Concord, the discussion to be opened by Dr. J. W. Parsons, of Portsmouth.

**The Treatment of Hiccough.**—Dr. C. W. Sillin, of Spencerville, Ohio, writes expressing the hope that some of our readers will give brief answers to the question, What is the best treatment for hiccough?

## ANSWERS TO CORRESPONDENTS.

*No. 263.*—1. Assuming the resistance to be 200 ohms, and that you use large electrodes, you might get a current of 150 milliampères or more. 2. It is not considered advisable to use two sorts of cells in the same circuit.

*No. 264.*—We are not aware of any widespread feeling against the practice, and we think it justified by the fact that such officers are insufficiently paid by the Government.

*No. 265.*—The antrophore is made by Mr. George Morlot, No. 96 Spring Street, New York.

*No. 266.*—Lectures on massage are given at the Bellevue Hospital Training School for Nurses by Mr. T. Cecil.

*No. 267.*—1. We do not know. 2. Probably the substance of what the doctrines were is to be found in an article by Dr. Ely Van de Warker, published within the last two or three years in the "American Journal of Obstetrics."

*No. 268.*—They are used with great success. See Dr. Willy Meyer's article in our issue for April 21, 1888, page 426. They are made by J. Leiter, of Vienna, and by P. Hartwig, of Berlin.

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Original Communications.

# THE RELATIONSHIP EXISTING BETWEEN HUMAN AND BOVINE TUBERCULOSIS.*

By E. F. BRUSH, M. D.,
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A strangely interesting phase of the study of phthisis is that presented by the disease in living beings. In the human race the afflicted are generally the most attractive members of society. Scrofulous females are usually among the most beautiful people we meet, with their transparent complexion and large languid eyes, while the scrofulous males are either intensely intellectual or correspondingly erotic. The same rule holds good in the bovine race; the small inbred tubercular Jersey is in appearance the most attractive of any of the cow tribe, while even the common scrub cow that is tubercular has a certain beauty that distinguishes her from her more robust sisters. I know a famous animal painter who will always unconsciously select from a herd of cows the scrofulous one for his study whenever he makes a study of a single animal from a herd.

This is not the only strange feature of the disease. No one seems to be afraid of it. For years men of undoubted scientific ability have been proclaiming to the world the still hardly recognized fact that bacillary phthisis is contagious, but the human family take little heed. Furthermore, the individual, sorely afflicted, beyond human aid, and shortly to die, is not convinced of the fact, but, with the same strange fatality that surrounds the disease in all its phases, the consumptive is still hopeful and imagines he is getting better even while he is dying.

This insidious and delusive disease is not the result of civilization, as many suppose. Barbarous and uncivilized races are afflicted as severely as many of the most advanced civilized races. Neither geographical position nor climatic conditions are a factor in the distribution of pulmonary phthisis, notwithstanding that our best workers in the study of the disease attempt at times to account for its prevalence in certain localities by reason of temperature or other climatic conditions. Nevertheless, every known part of the globe, with a few isolated areas excluded, is a habitat of the disease. After several years of close study of the affection, and consulting all accessible statistics and the habits of the people where the disease prevails, the only constant associated factor is found, in my opinion, in the inbred bovine species, without any regard to the social position of a community, its geographical habitation, terrestrial or atmospheric condition. If a community is closely associated with inbred dairy cattle, tuberculosis prevails.

This position which I take is susceptible of strong proof.

In establishing my proof I will first draw your attention to some barbarous races of Africa. Speaking of the natives of South Africa, P. L. Simmonds, in his book on "Animal Products," says: "This people delight in horned cattle of the bovine species," "the natives are great milk drinkers," "these barbarous people suck the blood from the jugular vein of the living bullock," and also "churn together blood and milk for a drink." Professor Low, in his "History of the Ox," tells us: "In the vast regions of southern Africa, peopled by tribes of warriors and herdsmen, cattle abound and multiply, and form the wealth of little communities. The Hottentots, while yet they had a country they could call their own, were rich in this kind of possession." In Hirsch's book on the "Geographical Distribution of Phthisis" we find the following: "In Cape Colony phthisis is oftenest met with among the Hottentots inhabiting the plains near the coast." In proof of the fact that these African cattle are inbred, we have the writings of Anderson, quoted by Darwin as follows: "The Damaras take great delight in having whole droves of cattle of the same color, and take great pride in their oxen in proportion to the size of their horns. The Namaquas have a perfect mania for a uniform team, and almost all the people of southern Africa value their cattle next to their women, and take great pride in possessing animals that look high-bred." Darwin, from whose "Animals and Plants under Domestication" we take this quotation, adds in his own words: "As numerous breeds are generally found only in long-civilized countries, it may be well to show that in some countries inhabited by barbarous races, who are frequently at war with each other, and therefore have little free communication, several distinct breeds of cattle now exist, or formerly existed, at the Cape of Good Hope. Lignat observed in 1720 three kinds; at the present day (1868) various travelers have noticed the difference of the breeds in southern Africa. Sir Andrew Smith several years ago remarked to me that the cattle possessed by the different tribes of Kaffirs, though living near each other under the same latitude and in the same kind of country, yet differed, and he expressed much surprise at the fact." *

These facts relating to the cattle-breeding propensities of the negroes account for the statements of Daniell, that "phthisis is widely prevalent and very malignant among the negroes of the west coast of Africa." In the interior plateaus of southern Africa phthisis, however, hardly ever occurs. This immunity can be accounted for by the presence of the tsetse fly. This fly inhabits well-defined regions in central Africa, and where it exists, cattle, horses, and dogs can not live.†

Let us now take the civilized inhabitants of a colder clime, and we find that in Denmark, one of the noted dairy countries, there are 1,470,078 cows to 2,033,959 inhabitants, or one cow to $1\frac{5}{14}$ inhabitant. The mortality from phthisis in that country ranges from three in a thousand to 2·1 in a thousand. Now Iceland, an island belonging to the King of Denmark, where the climatic conditions are nearly the same, has 20,000 cows to 80,000 inhabitants. There are no definite statistics about this, but, taking the most trustworthy accounts of the island as a guide, this is about the condition of affairs. The people of Denmark are well to do, and can use for themselves more of their dairy productions, while the poor Icelander pays his rent with his dairy product. With the exception of milk, the Icelander uses very little from his herd for food. In several accounts of travelers in that country giving a description of the entertainment extended to them, I never find beef in a single instance, while in the winter nearly all the milk used is obtained from the sheep. Owing to the short hay crops, the cows are fed in winter on dried fish, and consequently the cattle will not give milk on the same low diet as the sheep do. With all these modifying influences, and only one cow to four individuals, the rarity of phthisis in the island can be accounted for, if my theory is correct. That the disease is rare we know from the writings of Schleisner, who says: "According to the unanimous testimony of practitioners on the island, consumption does indeed occur there, although remarkably seldom. In my own practice I have most carefully examined every patient who complained of even the slightest trouble in the chest, and out of three hundred and twenty-seven persons suffering from chronic diseases of the organs of respiration, I found only three with phthisis." Evans says that "this statement is borne out by the more recent writings on the state of health in Iceland by Leared, Hjaltlin, and Finsen. It would appear that it is not with any national peculiarity that we have here to do, from the fact that Icelanders who migrate to Denmark fall into consumption not infrequently." *

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* Read before the New York Academy of Medicine, April 18, 1889.

* Guiol says that consumption is not uncommon among the colored races, particularly the Kaffirs. Guiol, "Archives gén. de médecine," November, 1882, p. 329.

† Wallace, "The Geographical Distribution of Animals," 1876, vol i, p. 945.

Now let us look into the affairs of a little island in the Atlantic Ocean as they existed sixty-eight years ago. It will be remembered that in my former paper on this subject I made the statement that asses and goats were not tubercular animals. The following is quoted from "A Description of the Island of Saint Michael," by John W. Webster, M. D., 1821: "Every family in Saint Michael has one or more asses, which are the principal beasts of burden in common use, subsisting on the coarsest kind of food; the females afford considerable milk, which is sold to sick persons. Although the island is so well stocked with black cattle, sheep, and goats as to allow considerable exportation, few of these belong to the peasanty. Cows are mostly attached to the estates, and the peasant who hires a farm, in addition to a certain quantity of work to be performed for his landlord, is required to take charge of these, and convey the milk, butter, and cheese to town, where they are sold for the benefit of the *morgado*, and the poor peasant receives no other recompense for his trouble than some slight abatement in his rent. The milk is carried to town in skins, on the backs of asses, but, from the agitation it undergoes, on its arrival most of the families in the city prefer using the milk of the goats, herds of which are kept in the vicinity, and daily driven into town and milked at the door of the customers." Dr. Webster adds: "Although the climate of St. Michael can not be safely recommended to a consumptive patient, it is, nevertheless, rare to see the disease in a native." Dr. Webster would not have been astonished at this condition of affairs had he realized the truth that phthisis is a disease acquired from the bovine race, for it is a fact that the only people on the face of the globe who enjoy an absolute immunity from phthisis are those who are not in possession of the domestic cow. Take, for instance, the Kirghiz on the steppes of Russia; these people consume large quantities of mare's milk and eat the flesh of horses and sheep; but they have no cows. According to Dr. Neftel and other authority, a case of phthisis among these people was never known.* Likewise, the Esquimaux also enjoy immunity, because they have domesticated the reindeer, not the cow.

But this allusion to the Esquimaux does not apply to those who inhabit Greenland and that part of the Danish dominions in the Arctic region. There are Esquimaux that know not the cow and there are Esquimaux who have domesticated the cow. So there are authorities that state that the Esquimaux are exempt from phthisis, and other authorities equally as positively state that "consumption is common" † among them. Thus, in the government list of mortality for the province of Julianshaab, "forty-six persons died (out of a population of 4,115, Esquimaux and mixed breeds) of diseases of the chest, which include phthisis, pneumonia, bronchitis, pleuritis, etc." ‡ This prevalence of tuberculosis is perfectly explained by the facts given in Dr. Hayes's book, "The Land of Desolation." # He writes in his visit to Julianshaab: "Around the lake were extensive pasture grounds, upon which were browsing a herd of cows. . . . At this I was not a little surprised, for, although I knew that in former times cattle had been reared here in great numbers, I had received the impression that at the present time they would not thrive. Mr. Arthur informed me there was no difficulty in raising them, except the very important one of forage for the winter, for at Julianshaab the grass never grows high enough for hay; further up the fjord, however, it is abundant. But since the hay must all be brought in boats, it was both a tedious and expensive operation to gather it. Yet he managed to keep three cows, the governor had an equal number, the doctor had two, others had each one; and, indeed, all the well-to-do people in the village—Danes, half-breeds, and the better class of Greenlanders—had a daily supply of milk the year round." Therefore, according to this testimony, the average of dairy cattle in this community is higher than in many better-known localities, and the prevalence of phthisis is not at all surprising.

Now let us look at a locality which once enjoyed immunity but now is notoriously a place for consumption. Wallace, in his work on "The Geographical Distribution of Animals," tells us that Australia was the poorest zoological region on the globe. A story is told by Simmonds as follows, which illustrates the scarcity of animals in this region: "Mr. Oldfield, who has seen so much of the aborigines of

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* Hirsch, "Handbook of Geographical and Historical Pathology," 1886, vol. iii, p. 177.

* Maydell, quoted by Williams.

† Williams, "Influence of Climate in Pulmonary Consumption," p. 17.

‡ *Ibid.*, p. 16.

# Dr. Hayes, "Land of Desolation," p. 36.

Australia, informs me that they are all very glad to get a dog, and several instances have been known of the father killing his own infant in order that the mother might suckle the much-prized puppy." The only animals that existed in this island before its invasion by Europeans were, according to Wallace, a few marsupials. Previous to 1788 no ruminants existed in Australia. In that year 1,030 convicts and sailors were landed; they had with them as public stock one bull, four cows, one calf, one stallion, three mares, and three colts. In 1790 provisions gave out, and they were obliged to kill all the live stock they possessed. In 1796 two bulls and three cows of the Cape of Good Hope breed were introduced, but they escaped and fled into the interior, where they were lost for several years. During this year several attempts were made to introduce European cattle, but they all died on the passage. In 1807 the Government had a herd of cattle in the colony, and cows were worth $400 a piece. In 1821, the Government becoming convinced of the great advantages of Australia as a grazing country, emigrants were allowed a grant of from five hundred to two thousand acres of grazing land, and rations from the King's stores were also allowed to each settler; a certain number of convict servants were likewise apportioned to them. They were also allowed a certain number of cattle from the Government herd, and a loan of money to be repaid in seven years. This was the beginning of the cattle raising in Australia. It proved so successful that in 1826 the Australian Agricultural Company commenced its operations, which was the origin of the "*sheep and cattle mania*," and, as the historian puts it, "the priest forsook his altar and became a herdsman of cattle." A drought, beginning in 1827 and lasting for three years, cured the mania. But within a year after the drought, cattle became so plentiful that the meat of the best quality was sold at a cent and a half a pound. In 1833 good cattle could be bought for $4 or $5 a head. At the present time, or according to the last consular reports, there are three million inhabitants and eight million cattle—nearly three animals to each individual. This great increase will be seen by the foregoing to have taken place within sixty years. Australia enjoyed a reputation for immunity from consumption and the favorable influence of its climate on the course of the malady, but, as Hirsch says, "this has of late been shown to be a mistake. In Victoria," he continues, "where the disease, it is true, has been a good deal more common *only in recent years*, the mortality from phthisis in 1866 was 6 per cent. of the mortality from all causes, while in Melbourne itself the death-rate rose between 1865 and 1869 from 2·22 to 2·52 to a thousand of the population. In New Zealand phthisis has made frightful ravages among the Maoris, and has been one of the chief causes of the gradual extinction of that race." In my opinion, the death-rate from phthisis will keep on increasing in that locality if the breeding of cattle is not properly regulated by law. We know from other historical facts that cattle can be raised without this great danger, because Hirsch and others tell us that in the Hebrides,[*] the Highlands of Scotland, and North Wales consumption is remarkably rare. The rarity of the disease in these localities is accounted for by Darwin's observation while he was studying the conditions of cattle under domestication. He says: "So with the mountain cattle of North Wales and the Hebrides it has been found that they could not withstand being crossed with the larger and more delicate lowland breeds. Our *improved* heavy breeds of cattle could not have been formed on mountainous pastures." Now, any one who has paid much attention to the history of cattle breeding knows that the improved races, as we understand them, are the result of the closest inbreeding. The rarity of the disease in mountainous countries also explains the following quotation from Hirsch: "Few countries of Europe enjoy, on the whole, so favorable conditions as Switzerland in respect to the infrequency of consumption, the figures for the entire country, according to Müller, being 1·86 in a thousand. In studying, however, the statistics of the different cantos, we find the mortality ranging from 3·57 to only 0·81. We know that there are localities in this mountainous country where Darwin's observations respecting mountain breeds would explain this condition of facts. The number of cattle in Switzerland is 1,210,849, and the population 2,906,750, or one animal to $2\frac{4}{29}$ inhabitants. Of course, too, there are regions of Switzerland where only the goat can range. We find from the official returns[*] of 1866 that there were 375,482 of these animals in that country, and we know, from the reports of travelers,[†] that the milk from the goat is used exclusively in some localities.

Having considered the conditions of some barbarous and some civilized communities, let us now look at the semi-civilized tribes of Madagascar. Both Hirsch and Evans,[‡] quoting Grenet, say that in this island consumption is as common as it is in any part of Europe, and rapidly fatal. We have no statistics of the numbers of the population or of the cattle, but all the writers who have visited the country speak of the enormous herds of cattle, and say that the principal diet of the natives is meat, milk, and rice. The principal occupation of the Malagasy is the raising of cattle, thousands of which are shipped to the other islands in the Indian Ocean. In fact, the Island of Mauritius, with its mixed inhabitants, depends entirely on Madagascar for its meat supply. The Rev. William Ellis, describing his trip from Tamatave on the coast to the capital, a distance of about three hundred miles, tells of the natives presenting him, at the end of every few miles' journey, with a bullock, while the Queen herself, as a token of friendship, presented him with eleven. He also adds that the natives never skin their animals, but cut them up and eat the hide as well as the meat.

We have well-authenticated statements respecting another semi-civilized race, the natives of Great Kabylia, who, according to Hirsch and Evans and other authorities,[#] enjoy an almost absolute immunity from phthisis. According to the best authorities I could consult as to the history of the people, there is no evidence of the presence of the bovine tribe among them, but they possess large flocks of sheep and goats, and each family has usually one buffalo ox to do the plowing.[*] As these are a peculiar people, with peculiar ideas and peculiar habits, not calculated to encourage visits from European invalids, they retain their immunity from phthisis to the present day. But not so with their neighbors, the Algerians. This country, having been occupied for over half a century by the French, has been therefore rendered sufficiently civilized to offer an asylum for European invalids. When first occupied by the French, the country was exempt from phthisis, and, of course, the publication of this fact drew to it many consumptive invalids. The dairy cow was unknown in Algiers before the French conquest. There were innumerable herds of buffalo, indeed; but the French in vain offered a premium of fifty francs a head for the importation of dairy stock.[†] Up to 1854 they were unsuccessful, all these attempts proving futile. In the latest statistics from that country we find the largest proportion of deaths from phthisis among the European civil residents.[‡]

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[*] MacCormac, "Brit. Med. Jour.," 1868, ii, p. 571.

[*] Simmonds, "Animal Products," p. 56.

[†] Prime, "Letters from Switzerland," p. 44.

[‡] Hirsch, *op. cit.*, vol. iii, p. 186.

[#] Armand, "Méd. et hygiène des pays chauds," Paris, 1853, p. 375. Bortheraud, "Méd. et hyg. des Arabes," Paris, 1855.

Dr. Scoresby Jackson makes the following remark about Algiers: "It is not necessary to prove the absence of pulmonary consumption from the natives of a country in order to demonstrate the beneficial influence of its climate upon those so affected from other countries. It would be difficult to find such a place, . . . but Algiers, at all events, approximates such a condition."

There are many other countries furnishing statistics of death-rate from phthisis where the disease is not indigenous but due to importation. I think this can be said of Greece. According to Roser[#] and Olympios, the disease is very rare in that country, and Edmond About, in his book on "Greece and the Grecians," tells us that "the town of Athens possesses only five or six cows; no other milk is drank than that of the sheep; their butter alone is eaten. They eat meat but once a year. The entire population eats meat at Easter for the whole year,"[‖] and this meat is lamb.[△]

In studying the relations existing between the human and the bovine races I find that religion plays a prominent part. Thus, in India, with the Mohammedan, Brahmin, and Buddhist religions, but where, as a rule, dairy cattle have not been domesticated, there was undoubtedly an absence of phthisis before the English occupation. Hence, to-day we find all statements regarding the presence of tuberculosis uncertain. Thus Hirsch[◊] says: "So also in India the prevalence of phthisis can not be given in figures. It is, on the whole, rarer in that part of the world than in the temperate zone of the Eastern Hemisphere, but by no means so rare as the earlier observers supposed from their imperfect means of diagnosis." Now, here is that expression of the feeling of doubt and uncertainty which we find in many works relating to this elusive disease. A man of scientific ability goes to a country and finds no phthisis among the inhabitants. After some years, under circumstances that change the habits of the people, he begins to find phthisis, and therefore imagines he was mistaken in his first observations. We find this taking place in Australia, Algiers, and Greenland. In India this vacillating expression of doubt is easily accounted for. When the English first occupied the country, the only cow they had was the small Hindoo variety, not related to our dairy cow, and this animal was and is an object of veneration, and the milk used in the country was derived from the buffalo. All the Buddhists and many of the Brahmin castes abstain from the use of meat in any form. Ansell, an early writer, says: "It appears that tuberculosis is correspondingly non-existent in certain localities in India." Now, there is a constant change always taking place in such a country as India. Prejudices are dying out, and many of the people have undoubtedly adopted the habits of their conquerors. The English dairy cow is slowly but surely finding her way into India, or, as Mair, a deputy coroner of Madras, says: "Beef is not at all times procurable, but is generally sold about once a week in every station where there is a sufficient number of Europeans to render the slaughter of an animal worth the butcher's while, for little beef is used among the natives. Occasionally the slaughter of a fine English stall-fed cow is advertised. In some districts the sale of beef is prohibited by law, out of respect for caste prejudices. Butter is an article difficult to procure of good quality, except on the hills, where it is sold by European settlers, who make dairy keeping contribute to their support. The native tendency is to palm off buffalo butter for that made of cow's milk." There is little doubt that when the English dairy system becomes well established in India, the statistics of phthisis will be uniform and undoubtful. Of course, the Buddhists and the Brahmins will be the last to adopt the dairy cow as a food producer.

Geographical and climatic conditions have little, then, to do with the prevalence of tuberculosis. There are undoubtedly conditions of climate, habitation, etc., that favor the development of the disease, if the contagium is present; and the contagion, I think, is always derived *primarily* from the dairy cow. The Kirghiz inhabiting the steppes of Russia, one hundred feet below the sea-level, with a rigorous clime, intensely cold winters and warm summers, badly housed and fed during the long months of cold weather, no dairy cows, and an entire absence of phthisis. Take, as nearly as we can get, a diametrically opposite geographical and climatic condition, and we find Quito, the highest city in the world, situated ten thousand feet above the sea-level, located at the equator. "No torrid heat enervates the inhabitant of this favored spot, no icy breeze sends him shivering to the fire." "The mean annual temperature is 58°, the extremes 45° and 70° F."[*] Now, we have quite positive and authoritative statements regarding this city. Professor James Orton, of Vassar

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[*] Daumas, "La Grande Kabylie." Morell, "Algeria," 1854.

[†] Morell, "Algeria," p. 477.

[‡] Jackson, "Medical Climatology," p. 138.

[#] Roser, "Ueber einige Krankheit. des Orients," p. 79. Olympios, "Corresp. bayerischer Aerzte," p. 181.

[‖] Edmond About, "Greece and the Grecians," p. 33.

[△] *Ibid.*, p. 102.

[◊] Hirsch, *op. cit.*, vol. iii, p. 185.

[*] Orton, "Andes and Amazon," p. 92.

College, who made a scientific expedition to the equatorial Andes in 1867, under the auspices of the Smithsonian Institution, says, at Quito, "suddenly we are looking down into the valley of Chimbo; there are herds of cattle and fields of grain, yet we shall not find a quart of milk or a loaf of bread for sale. Thousands of cattle are raised on the Paramos, but almost wholly for beef. A dislike to milk (observed by Humboldt), or at least an absence of its use before the arrival of Europeans, was, generally speaking, a feature common to all natives of the new continent. Some cheese, mostly unpressed curd, and a little butter, are made, but in the patriarchal style; only one American churn is in operation (in Quito, with a population of 80,000). The people insist on first boiling the milk, and then stirring it with a spoon; custom is omnipotent here, and its effect is hereditary." Professor Orton further says: "Consumption is unknown in the city." The testimony is unanimous that phthisis does not exist in Quito, but on the plains in Ecuador, according to Dr. Archibald Smith, who practiced there for twenty-five years, "the disease is not uncommon."

Professor Orton, after leaving Quito and traveling toward the Amazon, makes the following observation, which clearly indicates that the dairy cow exists in other parts of this country: "The following day we advanced five miles to Tablon, an Indian hamlet on the mountain-side. There we waited over night, and this was the only spot in South America where we found milk to our stomachs' content."

Without going into further details respecting separate communities, let us consider the statistics of Europe, and there we find that the prevalence of phthisis is regulated by the ratio of the bovine to the human race. Thus, in Ireland, where the cattle number 4,570,000, nearly an equal proportion to that of the inhabitants, according to Dr. Wylde, phthisis is by far the most fatal affection to which the inhabitants of that country are subject. Denmark, with about the same ratio of cattle to inhabitants, sustains about the same rate from consumption. In Portugal, where there are six inhabitants to one bovine animal, consumption attracts so little attention that few notices can be found relating to the disease in that country. In Italy, the distribution of cattle being one to six inhabitants, the mortality from phthisis varies greatly in different parts of the country, reaching the exceedingly low rate of 0·86 in a thousand in the Basilicata. In Egypt, where the ratio is one animal to nearly thirty inhabitants, Pruner tells us "that the disease becomes less in exact proportion as we proceed southward from the shore of the Mediterranean. In Central and Upper Egypt it is decidedly uncommon."*

Thus the statistics go on, and where the exceptions arise, the cause is always evident in the conditions that influence the breeds of cattle. Taking into consideration all the foregoing facts, there can be little doubt that the inbred species of the bovine race is the prime ætiological factor of phthisis in the human race. They not only nurse the germ and prevent its extinction, but sow it in the human race continually and abundantly; without their aid the germ would die, for of all the germs known none have so hard a struggle for existence in the human kind as the bacillus of tubercle, when we consider the comparatively few of the human race who are afflicted, and the immense number who are exposed to the infection and escape it.

The cow is the only known animal that has transmitted tuberculosis to her offspring in inheritance. I am fully aware that this statement will meet with considerable opposition, as many of our best workers are of opinion that bacillary phthisis is hereditary in the human race. But I have concluded that this is merely a theory, because, after diligent search, I have failed to find a well-authenticated case on record of a human fœtus at term showing evidence of tuberculosis. We have, however, on record in the "Fortschritte der Medizin," No. 7, vol. iii, 1885, a case given by Johne of congenital tuberculosis in a fœtal calf of eight months, and in Crookshank's "Manual of Bacteriology" (plate 18) is a stained illustration of the bacilli from this undoubted case. Just in the line of this hereditary tendency let me narrate an experiment of my own. Last summer I took the entire lungs and all the largely involved lymphatic glands from a cow dead from acute miliary tuberculosis, and, confining five laying hens and a cock, fed them exclusively on this matter till it was all consumed. I found after eight days one of the hens, which I killed, had tubercular affection of the laryngeal glands; I took twenty-six of the last eggs laid by these hens and put them under two sitting hens in another part of the farm. Twenty-three of these eggs developed fœtal chicks, but not a single one lived to come out of the shell. Two or three days after the period of incubation had expired, the hens themselves broke the eggs, but every chick was dead. I took some of the eggs that I had not used for setting to the Carnegie laboratory, and Dr. Grauer searched diligently for the bacillus tuberculosis, but failed to find any. He found, however, the presence of the germ in the lymphatic glands of the hen I had killed; he now has some of the chicks, but I have received no report from him as to their condition. Of the four remaining hens and cock, some one stole the latter when he was apparently quite ill, three of the hens died extremely emaciated, notwithstanding that they had abundance of good food after they had finished the tuberculized matter, and the remaining hen was killed by the burning of the building in which she was confined. This experiment needs confirmation by further experimentation. I had no idea that the eggs would not mature, or I should have placed with them under the same hens eggs from healthy birds; there was no appreciable cause in the surroundings or other conditions to prevent the hatching except the before-mentioned tubercular condition of the layers. I shall repeat this experiment, using eggs from healthy birds with those from tuberculous layers.

Without knowing that the fact is so, I have been looking up statistics of zoological gardens, and find that tuberculous animals fail to breed while in confinement. Of course we have no means of knowing how they behave themselves in their wild state, but I feel pretty safe in asserting that no one ever found a wild animal with tuberculosis. Darwin's statement while writing on inheritance—

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* Hirsch, p. 192.

"that, unfortunately, it matters not, as far as inheritance is concerned, how injurious a quality or structure may be if compatible with life"—only applies to the human race and animals which the human race is instrumental in breeding. To such animals, bred by the human race, Darwin applies the term artificial. We all know that in cattle one that is injured or unable to follow the herd is killed by the herd, and bulls in their wild state only maintain their supremacy by their vigor. The moment the head of a herd suffers from age or disease he is put away by the next strongest, and thus the vigor of the herd is preserved by this law of the survival of the fittest.

Man can not generate new forms, but he can so control and interfere with nature's processes as to modify the original design. Inbred cattle are selected, sheltered, and pampered, as they would be unable to withstand the rigorous conditions of the wild state; they propagate earlier and are larger milkers and more efficient beef-producers, and their meat is more delicate and tender than that of the wild animal. All this is achieved by man at the expense of his own health.

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## A BRIEF SUMMARY OF NASAL CATARRH AND ITS TREATMENT.*

By BEVERLEY ROBINSON, M. D.

It has seemed to me that I might hold your attention this evening if I read you a short paper on a subject that has some interest for most of us—*i. e.*, nasal catarrh.†

One objection to the selection of this subject is that it is an extensive one, and I shall have the time only to touch upon it in outline. You will doubtless pardon me if I do not treat it in as methodical a way as would otherwise be desirable. I presume if we were to ask doctors generally what they mean by nasal catarrh, the answer, except it came from specialists, would not be very definite; and if you were to ask the laity you would get a reply which, from a medical point of view, would not be wholly satisfactory. In a general way—I repeat, in a general way—people are said to have nasal catarrh when they have one of two symptoms, or both—stuffiness in the nose, hawking and spitting from the throat. Patients may have, and often do have, the two symptoms combined. Frequently it is easy to determine the locality in which the phlegm is formed. At times it requires a very careful examination with the rhinoscope, with the laryngoscope, and by means of physical exploration of the chest, to be convinced as to the precise origin of the expectoration. Indeed, it is not unusual, after we have made the most searching inquiries and employed all exact methods of diagnosis, to conclude that an extensive area of the respiratory tract is more or less involved, and that the sputa come from the naso-pharynx, the middle and lower pharynx, the larynx, the trachea, and perhaps the large bronchial tubes.

It is easy to appreciate, under these circumstances, that a problem is involved which may call for a fair amount of medical acumen to properly solve in its different aspects. For the over-enthusiastic and somewhat narrow specialist, who is too ready to accept the doctrine that most, if not all, pharyngeal, laryngeal, and tracheal inflammations are the inevitable sequelæ of nasal disease, and that the nasal disease is usually due to obstruction of nasal respiration, it is relatively simple to say, Free the nasal chambers by judicious operative procedure and a cure will follow. To those of us, however, who look at the ills of humanity from a wider field of vision, such an affirmation often falls far short of truth. We know only too well that, while occluded nasal passages are highly detrimental to a good condition of the remaining portion of the respiratory tract, yet morbid affections of the throat and bronchi may and do occur frequently when no nasal occlusion exists; and, further, that a simple operative procedure which opens the nasal fossæ when they are obstructed is by no means always sufficient to effect a cure of catarrhal inflammation of the naso-pharynx or lower down in the air tubes. This is due to the fact that inflammation of the respiratory mucous membrane may be occasioned by a large number of conditions, some of which act directly or as mere local irritants; others, which affect the general system, are thus in an indirect manner the efficient factors which occasion the local disturbance. In another and very wide category may be placed the influence of geographical position; in another, winds and rapid changes of temperature; in another, the effects of climates and seasons; in another, hereditary tendencies; in another, modes of life and habitual surroundings; in another, fatigue, emotional disturbances, and numerous accidental causes, etc. To continue and enumerate all possible causes of catarrhal inflammation of the nose and other portions of the air-tract becomes indeed a difficult task.

In connection with the symptoms of nasal catarrh referred to above there may be discovered certain local abnormal physical conditions—*i. e.*, deviation of the septum, mucous polypi, adenoid vegetations, etc. Again, the general system may be vitiated with gout, syphilis, or tuberculosis. Finally, all evidences of dyscrasia may be wanting, and the affected person may be in other respects perfectly healthy, and, except for the obstructive feeling in the nose or the hawking and spitting from the throat, or these united conditions, would have absolutely no source of physical grievance. Now, if we look back through the history of the ages, we shall find all sorts of theories regarding catarrh. Catarrh is not a disease only of to-day; it has probably existed since the origin of man. Hippocrates wrote about it when it was regarded as a mere local disease. Later on it was supposed to be a disease of the blood, and this theory was more particularly evolved by Schneider, whose name has become associated with the membrane lining the nose—the Schneiderian or pituitary membrane. Subsequently there have been different opinions, good men being arrayed on both sides of the question. Some hold that catarrh is due to a diathesis; and this view is supported more particularly by the French school. One of the ablest exponents of the doctrine, Bouillaud, is more widely known by his treatise on cardiac disease. To me it seems that the justification of the view that there is a constitutional cause for catarrh is in some instances discovered without difficulty.

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* Read before the New York Clinical Society, April 26, 1889.

† In explanation, regarding the use of this name, I would say that I am aware how faulty the term nasal catarrh has become in view of the subdivisions that have been made of rhinitis. I believe, however, I may be pardoned for using it, inasmuch as I am of the opinion that it is sufficiently exact for the general practitioner of the present time. I may add for the solace of the advanced specialist that I refer in my description and treatment mainly to hypertrophic rhinitis, which, in my experience, embraces a very large proportion of all cases of catarrhal disease of the nose we are called upon to treat.

There are other observers, however, especially of the German school, of whom Niemeyer is an example, who hold steadfastly to the notion that catarrh is altogether a local trouble. There is at times undoubted truth in that view, so we perceive there is some truth on one side and some on the other. It remains for us to determine where the exact truth lies in individual cases. That there may be a constitutional condition to account for catarrh I believe as firmly as I did fifteen years ago, but we may not be able always to discover it or to tell in what cases it is or is not present. It may be obscured by other diathetic conditions, such as gout, syphilis, rheumatism, or tuberculosis. You may not, however, be able to recognize any of these dyscrasiæ in a given case, yet the patient, although quite healthy in other respects, has persistent catarrh. This condition, in my opinion, is to be accounted for in one of two ways—either by a special dyscrasia, which keeps up the catarrh, or by external conditions, such as those due to atmospheric changes, soil, climate, dust, special vocations, habits, etc. In certain surroundings one man will be bothered by catarrh, while another will be entirely free from it. The interior conformation of the nose has its importance as an exciting factor. In many noses the nasal septum deviates notably to one side. This can be demonstrated either by the examination of numerous individuals successively or by inspecting human crania in a museum. The amount of deviation is variable. In the larger number of persons it is slight and only causes annoyance at times, when there is suffering from a cold or irrational treatment. In a few individuals, relatively rare when compared with the vast number who have no such infirmity, the amount of obstruction due to the deviation of the septum necessitates an operation for the relief of the symptoms caused by it. It should be remembered, however, that it is not well to attempt to correct all septal deviations, as some of them occasion little or no disturbance. Frequently nasal catarrh is little more than the consequence of a bad habit which has been persisted in. When the habit is abandoned the nasal difficulty can be cured with ease.

I have recognized (as a good many others have recognized) and demonstrated that douches through the nose can only wash, cleanse, or purify a portion of the nasal cavity. The opening at the posterior nares is of not more than half the height of the nasal chambers at the median portion, and the douche will only wash out the lower portion, including, sometimes, the median meatus. It may cleanse the inferior turbinated bodies and a portion of the median, but, as usually employed, it never reaches the upper part of the nasal passages. This I can prove by mathematical measurements and by the effects on the patients. I have again and again seen patients wash out the nose with the douche, and immediately afterward have found secretions sticking to the upper part of the passages. Then, the douche has often given rise to median otitis. This has been proved by Roosa, Knapp, and others, and I have helped spread the knowledge myself somewhat. As to the kind of solution employed, it has been variable. During the past ten years pretty much everything has been tried that one could think of.

But if a man has an occluded nose and uses douches, he will find out that they will occlude it more. If he has a pretty free nasal cavity, they will at first tend to cleanse it, but after a week or a month he will tell you that his condition is as bad as it ever was. Only temporarily is his obstruction relieved. Still, here and there, it has been maintained with some show of truth that the use of the douche is attended by cure of catarrh, but such cases in my experience have never been observed. Now, with regard to the sprays, some years ago I believed the spray was curative of many nasal troubles, but now I hardly believe it will cure any case. I believe, however, it is sometimes an aid. Some sprays are better than others, and some are really injurious. Good sprays act as a cleansing measure better than the douche. A cure may be effected in a few cases by their use, but such cases must be very infrequent. If the spray is too dilute, not carrying sufficient of the active medicament, positive results will not be produced; if it is too concentrated, it hurts, and produces unfortunate results, because you can not limit it to the points requiring treatment. After forming the notions just mentioned, I began to use powders in all forms, and for a while I believed we could often cure catarrh with them, but I no longer believe it. I believe they are better than douches; they do less harm. I believe also they are better than sprays, because the medicament which they may carry remains for a longer time in contact with the parts affected. It is only necessary to recall the form of the nasal passages to be impressed at once with the impossibility of limiting the douche, the spray, or the powder, to the part from which the secretions flow in nasal catarrh; that is, to the diseased tissue. But of the three measures mentioned, I think powders are rather better than sprays, and certainly better than douches. For a year or two past I have, so far as concerns the anterior and median portion of the nose, relied more on ointments to produce curative results. There is one objection to them, namely, that they can not be made to reach so much surface as the spray, douche, or powder does, but I believe an ointment is better for application to an inflamed mucous membrane than a water, the reasons for such belief being physiological. I have not time to repeat them here; they are to be found in some of my writings. I introduce the ointments on applicators, or have the patients sniff them up. At present I am using a spray of carbolized oil. This, being a spray, has, in the first place, the advantages of a spray; it further possesses the advantage of an oleaginous agent, and in addition is a medicament, since it carries carbolic acid. Another method of employing medicinal agents locally is in the form of vapors. You may put the medicament (it must be volatile) into water and raise this to a sufficient temperature to make a vapor to be inhaled. It will come in contact with all parts of the mucous membrane, and might be supposed to be an excellent method, but practically it is a failure, for under it patients grow worse. Dry vapors properly used are, in my estimation, sometimes very valuable. They may be employed in various ways. I now use a little inhaler which bears my name. It costs only fifty cents and is, I believe, more serviceable than any instrument for a similar purpose which can be bought even at a much higher price.

Sometimes these local medicinal measures will all fail to relieve materially, much less to cure entirely, and you may not be able to recognize any diathesis to account for the catarrh. In this position you may recur with some advantage at times to one of three remedies for internal administration. These are cubeb, sulphur, and ammoniacum, which have been recognized for more than a hundred years as of benefit in inflammation of mucous membranes. Sulphur may be used in spray,* or it may be taken internally in the form of sulphur water. Such waters, abroad and in our own country, have been used beneficially in catarrhal affections. This treatment has its objections, but I will not stop to point them out.

Regarding cubeb, I think I was the first to use it in nasal catarrh in an extensive way. I think well of its use in selected cases, and believe it has a desirable modifying effect upon the diseased condition of the mucous membrane. It may be given with a probability of being useful in cases in which catarrhal dyscrasia is apparently present, and provided the digestive organs are undisturbed. Ammoniacum is also useful only in certain cases, for in some it causes the secretions to become too thick and tenacious and hard to remove from the nose or naso-pharynx, so that it has to be given up. So much can properly be said in regard to the intelligent medicinal treatment, local and general, of numerous cases of nasal catarrh—in persons in whom it may or may not be due to a diathetic condition, who are otherwise in good general health, and have, so far as can be recognized, no invincible or considerable degree of local obstruction which acts as the evident or sole cause of the catarrh.

There is, however, a surgery of the nose apart from the medical treatment in cases of catarrh; and when conditions do exist which surgery should take hold of, then by all means employ surgery. But do not expect to cure every case of catarrh by surgical means. There is no use of imagining that all ailments center in the nose, and that everybody who has catarrh must be butchered for it. I am perfectly willing to hurt or mutilate people by the use of instruments when it is necessary, but I do not believe in doing too much of certain kinds of meddlesome and injurious surgery. There are many persons who come to the physician with catarrh and have some obstruction due to hypertrophy of the turbinated bodies, yet who can be cured by milder measures if the catarrh has not existed for too long a time. But when you find that ointments, vapors, etc., and some judicious general medication, with proper attention to coincident or complicating affections, habits, surroundings, and all measures of good hygiene, do not produce curative results, try something a little more severe; sometimes acids avail. We all know that at present we need not hurt the patient in making these applications, since we can use cocaine or rhigolene with the happiest effects to reduce the sensibility of the mucous membrane.

A few years ago I used nitric acid considerably, but I do not think so much of it now. Then glacial acetic acid was used by me, then monochloracetic acid, which I still employ and regard as one of the best acids for cauterizing the nasal mucous membrane.

If milder measures do not avail, you can wrap a piece of cotton on a steel carrier, dip it into one of these acids, and carry it up and through the nasal passage, following particularly the lower meatus, or the inner margin of the middle turbinated body. I think, to be prudent, you had better cover one side of the applicator with vaseline or oil, using the monochloracetic or other acid on one side only. The monochloracetic acid acts somewhat curiously; it produces a slough, but the slough does not come away until the mucous membrane beneath is so far healed that there is no danger of adhesions. Another acid used by a number of specialists in this city with a very liberal hand is chromic acid, and I may say that, on the whole, this is one of the best agents we have for producing a cauterizing effect, and if used properly it is not followed by unpleasant results. But try your patient. Do not use too much of the acid at once; do not get the poisonous effects from absorption as occasionally occurs when it is employed too freely.* I have never been troubled with symptoms of poisoning, but, unless care is used, it is not impossible for them to take place, as a portion of the acid employed may not come in contact with the soft tissues and may not therefore be entirely neutralized.

When, then, monochloracetic acid fails, I believe chromic acid to be the next best for freeing the obstruction of the nose, especially when there is beginning hypertrophy of the turbinated bodies. Any ordinary carrier—the simplest of all being a piece of copper wire flattened and bent at one extremity—will answer usually to make these applications. Occasionally, however, where it is desirable to make the contact far back in the nasal passages and where the anterior and middle portions of the nasal chambers are not very open, it is advisable to make use of a shortened McCoy's applicator, which enables one to apply the chromic acid at any particular point without risk of touching neighboring surfaces.† Sometimes the obstruction is due in part to a chronic inflammatory condition with thickening of the turbinated bodies, and in part to deviation of the septum. Occasionally the obstruction from thickened turbinated bodies may be overcome and the patient still complains of the nose being occluded. In these instances, and when the septum is obviously the cause of the occlusion, a suitable operation must be performed for a removal of the offending portion of it.

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* Sometimes advantageously mixed with pine-needle extract, as is now done at Sharon Springs, N. Y., and at certain springs in Europe.

* According to Dr. Squibb, "every molecule of chromic acid which destroys a molecule of organic tissue is itself destroyed and rendered inert by being reduced to an insoluble and inert oxide of chromium." Hence, it may be, these fears of some persons are groundless.

† Latterly I have relieved a patient, who suffered from a large mucous polyp, lodged high up in the posterior nares, that I was unable to get hold of with forceps or snare, by means of this useful instrument.

Some years ago there were physicians who asserted that one of the best agents for overcoming deviation of the septum and thickening of the turbinated bodies was the galvano-cautery, but others professed to get only bad results from it; they said that it set up otitis or erysipelas, and did untold harm by producing adhesions between adjacent parts. From my present standpoint, I believe the latter class did not employ a good instrument, or did not know how to use it. I have never excited erysipelas or otitis with suppuration by this method, and I believe thoroughly in the method in very many and suitable cases. The use of the cautery, properly applied, after the diseased parts have been anæsthetized with cocaine, is attended with neither pain nor more than very slight bleeding, as a rule. Bad results do not follow. Of course, I am not prepared to affirm that bad results can not follow the use of the cautery, but in my hands I have yet to notice anything worse than temporary adhesions thus produced in very narrow nasal passages in which almost any cauterizing agent would be followed by similar bad results, with the single exception of monochloracetic acid. The cautery is objected to by some nowadays on account of the inconvenience and trouble in using it. Such an objection is occasionally real and should be attended to, but in the offices of many physicians this objection is no longer valid since the widespread introduction of storage batteries. Usually, when I find a septum with a prominent deviation anteriorly, I take a Jarvis's or Weir's cutting forceps, and in a few moments, after cocaine has been applied, cut away as much tissue as is required to relieve obstructed breathing from this source. This method, in many instances, is better than the use of the saw, for you can stop when you want to, whereas when you begin to excise a piece with the saw you must go all the way through, or else you leave a strip or plate of tissue half removed and half attached, which keeps up bleeding and is a source of discomfort until it is removed entirely. The cartilage nippers are a little more tedious to use than the saw, but they are often preferable. Of course, if you want to have every septum present a surface as straight as the walls of a room, you will be disappointed unless you attempt to do unnecessary and injurious work. Bear in mind that, in the human family at least, a somewhat deviated septum is the rule, and by no means the exception. Neither the saw, the drill, nor any other instrument can therefore be relied upon to bring about an *impossible result*. The saw is an excellent instrument for many cases. I have used it and shall continue to use it whenever I believe its use is indicated. It has, however, its drawbacks. You can not saw around the corner; the saw must go straight ahead. With it you can not take away more tissue here and less there; and you can not always stop when you may want to, but must go on and remove the piece and take it out. Suppose the patient is weak and there is more bleeding than is desirable, yet you must go on with the operation. Despite many advantages that the saw undoubtedly possesses, it is in the hands of a few very like the trephine in the hands of a few—raised to the pedestal of a "cure-all." In view of my opinions previously expressed, the error of this extreme view must be obvious. Whenever the means described fail to relieve intranasal obstruction, we may have recourse to the trephine. Having a battery of sufficient power, get a nasal trephine and, in cases demanding it, bore one or more holes through or along the projecting spurs of the septum. The ridges which remain after the use of the trephine may be pared down with suitable scissors, with nippers, or even at times with the snare. The operation by means of the trephine may occasion quite smart hæmorrhage, and you may wish, after performing it many times successfully, that on some special occasion you had been content with a means less brilliant, but also less liable to unpleasant consequences. Yet the trephine is an excellent instrument and, in the hands of a skillful manipulator, not likely to do harm.

It must be borne in mind that, in order to use the trephine satisfactorily, you must be provided with a suitable battery, and one proper for use in connection with this instrument is quite expensive, and requires a considerable space in or out of the office for its location. Moreover, an electric motor, a handle, stand, and trephines of different sizes are essential. All this apparatus is very well for one to possess who meets with cases requiring its use often, as a prominent specialist in throat and nasal affections may. Not so, however, for the general practitioner, who may not have occasion to employ the trephine once in a life-time, as a matter of necessity, and because other means fail in producing good results. In my experience I have seen very few cases in which I considered the employment of the trephine necessary, meaning by this term that an equally good result could not be obtained by other and simpler means. A notable instance of this kind, however, was that of a child suffering from congenital occlusion of the nasal passages. He was operated upon successfully by Dr. William C. Jarvis by means of the trephine. Such conditions are extremely rare, and, so far as I know, very few similar cases have been recorded. I would not be misunderstood, however, in the estimate I make of this instrument at present in vogue for those who are afflicted with deviated septa and occluded noses. By its aid almost any form of obstruction may be relieved, and the result may be that the patient is cured of one of his worst symptoms of disease. But it is not, in my judgment, the best instrument to use in many instances, and in a very large proportion of cases both it and other operative procedures are uncalled for; and, instead of curing the patient, merely palliate symptoms for a while, and later on are shown to have no marked remedial effect.

If you have a case of nasal polyps, one way to get rid of them is by the forceps. But it is not a very pleasant method. You may snare them off with the cold wire snare or with the galvano-cautery wire. The snare is a pleasant means of removing them, but you must first use cocaine to prevent slight pain and uncontrollable sneezing. The galvano-cautery or cold wire may also be employed in treating posterior hypertrophies of the turbinated bodies, but it may prove easier to try chromic acid. Some years ago some physicians professed to be able to cure nasal catarrh by applications of strong solutions of nitrate of silver to the naso-pharynx and posterior nares. I was once a victim of that method of treatment. The application of nitrate of silver relieved me for twenty-four hours, but afterward the catarrh returned as bad as previously. The silver salt had simply placed a film over the secreting surface and given relief for a while, or until the film came away. Then there are all sorts of quack cures for catarrh. Some of these remedies which are advertised possess certain curative properties for certain cases, but it is not safe to use them unless their composition has been determined by analysis, in which case you can as well prescribe your own mixture, which will cost the patient much less and do, of course, just as much good. When a quack remedy gets a hold in the market it is well to learn what its principal ingredients are, since it may prove of some use to you in practice. But do not prescribe a quack article. Formulate a remedy of your own to use in its place. While all sorts of quack catarrh remedies are to be found in the shops—some from London, some from Paris, and some of home make—yet it will be observed that they do not cure cases of nasal polyp, septal deviations, ulcers, etc. So-called catarrh remedies, seen mentioned in advertisements, are usually injurious in a greater or less degree to the patient, although occasionally they are employed in cases in which it is possible for them to do some good.

After all that has been said it must be admitted that changes in the climate, filth, sewer gas, malaria, and what not have much to do with the production of catarrh. Even Fifth Avenue is so filthy half the time as to make us feel disgusted with it. Catarrh in many cases is nothing but a filth disease, and Dr. Mackenzie, of London, says that that is the chief cause of catarrh in the United States. He says there is no such thing as scavenging in this country. This is quite true of some places, but there are towns where catarrh prevails which are as well scavenged as any town in England. But it is not New York city. There are cases of catarrh in this city which are undoubtedly kept up by filth, by irritating particles floating in the atmosphere, carried hither and thither by the winds, such as horse-dung and fermenting, putrefying substances. Do not consider, then, that any specialty by itself will control the situation. The treatment of the nose may be well enough where it is indicated, but where filth is the cause of catarrh something more must be done. At the Congress of American Physicians and Surgeons, held in Washington last September, Dr. William H. Draper, in his presidential address before the Association of American Physicians, presented in a very graphic and striking manner what should be regarded as the qualifications of the practical physician to-day. He must be a man of broad views, who has all kinds of knowledge; who controls the whole medical situation. He is not a bacteriologist; he is not a pathologist; he is not a chemist or a physicist; he is not merely a therapeutist; he is not a specialist of any sort, nor does he look at clinical medicine from any limited horizon; but he is a man who in some sense is master of all these several branches of medical education by reason of combining as much as is possible of the sciences which these different divisions represent, and thus perfects the most beneficent of all the arts. "It is he who, in his high position as the servant of humanity, must attain that wisdom which results from combining knowledge with the instinct and the skill for its useful application." Therefore get as much knowledge of specialties as you can, but always feel that the broad standpoint is the correct one. The family physician, be certain, will one day resume his former position in the household, using all the power that rightfully belongs to him, but it will be in a modified manner and more in accordance with the wide extension of knowledge. He will no longer be expected to know everything in such a way that he is able to pass unaided expert judgment on all human ills, nor will he be expected to operate in all cases requiring surgical interference. He will, however, be the person to whom each member will turn for advice in all bodily ailments, and by whom he will be guided entirely whenever it is a question of special interference with any particular organ. Nor will he ever lose, as he frequently does at present, any of his laboriously earned prestige because he is not wholly "up" with the very latest "wrinkle" in all departments, nor because he hesitates wisely in adopting every novel idea before it is proved to be *good* as well as new.

What I have said to you previously does not embrace the whole subject of nasal catarrh. It is only a part, and perhaps a small part; but I hope it may be suggestive, and in this way, as the judgment which comes of considerable experience in the treatment of this disease, be of service to you all. No one, let me add in conclusion, appreciates more than I the real progress which has been made during the past ten years in the correct management of nasal catarrh. Yet, on the other hand, and in view of the increasing surgical tendencies in the care of this disease, we are witnessing daily unnecessary and injurious operations which do not really benefit the patient, and should not, with a more enlightened appreciation on the part of the general profession, increase the renown of the specialist.

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# THE EARLY OPERATION FOR HARE-LIP,

### *WITH REPORT OF A CASE.*

By THOMAS H. MANLEY, M. D.,
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Among the many defects occasionally met with at birth, there is scarcely a single one of a more repulsive character to the eye than the deformity known as hare-lip.

The peculiar displacement of the tissues seen here produces a most unpleasant distortion of the features, and, if left unrelieved by operative measures, destroys forever the normal harmony of action of the facial muscles, leaving the unfortunate victim throughout life with the unsightly, ugly grimace peculiar to this defect.

Next to the eye, the mouth is the most expressive portion of the face. The set of the jaws, the full and free play of the lips, are indispensable in giving expression to sentiment or emotion, so that anything either congenital or acquired which interferes with the integrity of this part of the face becomes, indeed, a sad misfortune.

Authors are much divided in opinion as to the time or age at which the operation for the relief of this blemish is most appropriate. Some prefer the period after the incisors come through—fourth or fifth month; others advise waiting till after weaning; again a few would operate after the first or second month, but I can find no author who justifies an operation in the first or second week of infantile life.

The reasons which have been set forth for an early operation are that it is usually well borne, that now the tissues heal very rapidly, that the displaced parts are more readily brought into their normal position, and that there are better prospects of securing a good result.

On the other hand, the surgeons who prefer to wait till the child has passed his first year maintain that the infant, at a very tender age, after mutilation of the parts is very liable to convulsions; that the infant's general health is much imperiled by the interdiction of nursing which a cutting operation involves.

I believe that each case must be treated on its individual merits, and that no uniform rule is safe to follow, in all cases, in this matter of age.

I think, however, that few will take exception to the following propositions, who have had much experience with the operation:

1. To consider the mother's and child's condition of health; whether the mother is nursing or not, and if the child is vigorous and in good health. If the child is strong and well fed, I see nothing in the way of an operation in the early months.

2. If the cleft is confined to the skin and fleshy tissues alone and is of considerable extent, then wait—if the child is nursing—till weaned.

3. Always operate as early as possible, if the rent or fissure extends into bony structures, when the gums or palate are involved. Under these circumstances do not delay on the score of health, for feeble-looking infants sometimes bear cutting operations better than those who are very fat.

It seems to me that it is of paramount importance to commence remedies for relief of all deformities as soon after birth as possible, with few exceptions; and with these hare-lip cases opening up the nasal with the oral cavities, it would appear well to always do what I designate the "immediate operation"—*i. e.*, within ten days.

The following case illustrates what I think may be designated the "immediate operation." After careful reasoning and extended study on the subject, I ignored the advice of many who only do the operation after the first year, and took my little patient in hand when she was seven days old:

She was born February 4, 1889; operated on, February 11, 1889; as the mother was delivered on Monday morning, and the *next* Monday afternoon the child was brought to the Harlem Hospital for operation. She was of healthy parents, well formed, and vigorous; the fourth child, the first girl. The cleft in this case was on the left side, extending through the lip, gum, nostril, and backward about half way through the hard palate, opening up through the mouth into the nasal cavity, and, as seen in the cut (Fig. 1), not only making a breech between the left maxillary and intermaxillary bones, but also crowding forward and outward the intermaxillary segment of osseous tissue, the lip, and other coverings with it.

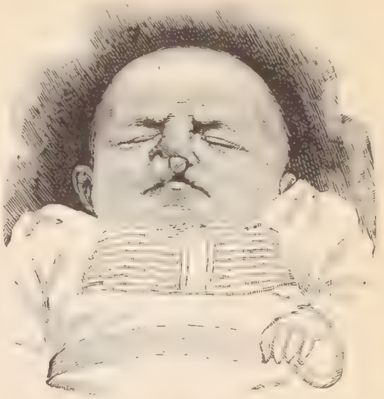

Fig. 1.

Another strange freak of nature in the case was the presence of two fully developed lower incisors. Though the mother had an ample supply of milk, the infant could not suck, or, rather, when it made an attempt it oozed out through the opening in the nostril.

The ætiology of hare-lip is rather obscure, but the history of the maternal state and of the intra-uterine life of this infant are quite interesting. Immediately on delivery the mother declared that she feared the infant was "marked"; and this presentiment was so strong that she would not submit to the importunities of the nurse and friends, who, by evasive answers, tried to persuade her that there was nothing to worry about, and they warned her of the danger of emotion and excitement at this juncture. She was irrepressible, however, and had to see her offspring, when, much to the surprise of those present, she did not manifest any wonder, but said that she got a fright when four months pregnant, which she was slow in recovering from. She said that one day in the previous summer, while going out, she was terrible startled by a boy who ran almost into her arms in the hall. Blood was streaming from his mouth and nose, and as he removed his hand she saw a wound or cut, which bared the gum and teeth, extending through the lip to the nostril. On seeing this she became quite faint, returned to her apartments, and, as she put it, "could not banish the thought of what she saw to that day."

Fortunately for the purposes of verification, the lad still resided in the same house. At my request, he was sent to me, when there, plainly to be seen, was a linear scar on the left side, running in exactly the same direction as the opening in the baby's lip.

I tried to have him photographed, but his parents would not consent to it. This lad's lip had been opened by being hit with a sharp-edged stone, thrown by another.

This, indeed, was a well-marked instance of a blemish in development due to maternal impression.

I wish to mention in connection with this case, though it is hardly the place, another of most remarkable interest in support of the alleged connection between congenital defects and faulty development which came under my observation.

A woman, pregnant four months, was suddenly summoned to the door by a knock. On opening it, a man stood there, with extended hand, soliciting alms. She was about to close the door when he removed his hat, which she thought he held on the elbow, and suddenly, as it were, to enforce his appeal to her sympathies, thrust the bared stump of an amputated arm almost into her face. It is needless to say that she was quite shocked, but when she was delivered at term her infant son was *without an arm* from just above the elbow; and I never saw a prettier stump than this one which nature had elaborated.

*Operation.*—The indications in this case were simple, but the manner in which they could be carried out with the best result was something else.

It seemed to me that, especially owing to the sex and to the fact that osseous structures were involved and the infant unable to nurse, an effort should be immediately undertaken to obliterate the repulsive disfigurement.

It seemed quite evident that there was neither absorption nor atrophy, but simply displacement, and it occurred to me also, if one manœuvre could be successfully executed, the greater part of the difficulty would be at once removed; hence, after having the baby placed in the nurse's lap, with the head secured against the chest and a few whiffs of chloroform given, I commenced by seizing the whole of the deflected and displaced maxillary and intermaxillary bones between the fingers of the right hand, and applied sufficient force—to bend or break—to crowd them into their proper position. Using the hand then as an osteoclast, I felt the delicate bony structures gradually give way, and very readily adjust themselves in the direction inclined.

With the simple and successful execution of this movement nearly the whole deformity disappeared. This break in the *segment of a circle*—as normally the formed upper jaw really is —effaced the separated edges of divided shell-like roof of the mouth, the bones coming into easy apposition, and the widely separated edges of gum and lip came flush together. The nostril only resisted the process of replacement, and failed to exhibit as much improvement from our manipulation as other parts. This I think was due to the long strain put on the muscles, which give regularity to outline. No doubt all the muscles of the ala nasi had lost their tonicity, and failed, as a result, to restore that harmony of position and symmetry so essential to the features.

With a delicate scalpel I refreshened the divided edges of the palate and inserted a continuous stitch in order to solidly close this vent. With the edges of the maxillary bones I dealt by cutting into their partly ossified edges and securing them together with delicate silver wire.

We had to conclude the operation now by sealing the ends of the lip. I did this by the method of the distinguished Irish surgeon, Maurice Collis,* who *saved the parings*—*i. e.*, he didn't make any. The incision was carried down on either side quite freely between the cutaneous and vermilion borders, from the base of the nostril to a line with the normal border; then on each side the lower and the outer were sewed separately together with catgut suture—very fine; the outer sutures were deeply inserted in order to secure solid and permanent union. A strip of rubber sticking-plaster was carried across the line of division to add to the support of the mutilated parts. The little one was brought home the same night and made a rapid and, I think I might say, good recovery. At no time did the temperature go above 99° F. The first few days she slept little, but took milk drawn from the mother's breast with much relish.

After the first five days we commenced to break her into nursing with the nipple and bottle. In eight days the superficial tissues and palate seams had solidly healed, and she was put to the mother's breast. How well she has thrived her photograph (Fig. 2) will show. This was taken when she was just two months old.

The gums closed firmly and the wire was removed on the twenty-fourth day by simply raising the lip and, after division, picking them out.

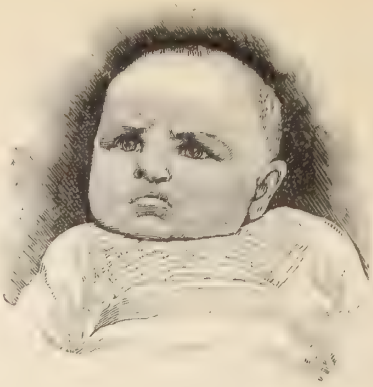

FIG. 2.

In conclusion, it may be well to clearly define the class of cases in which this extremely early operation should be advocated and employed.

It would seem the ideal method when the osseous structures share with the lip in the cleft, because now the bones are only in their formative stages of development, osseous deposit being yet but slightly advanced, and the young bone, like the horn of a yearling, will grow in almost any direction in which it is forced.

Besides, it seems to me, from a careful study of comparative anatomy and the physiological laws of normal development, that any kind of malformations and congenital defects should be taken in hand by the surgeon as speedily after birth as possible. The longer we wait, with the body rapidly growing, the more difficult will be any kind of treatment; hence the necessity of decisive, prompt, and heroic measures.

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# FLOATING LIVER IN AN INFANT.

By EDWARD H. PARKER, A. M., M. D.,
POUGHKEEPSIE, N. Y.

THERE is but little satisfaction in putting on record a case, especially if it is of an unusual character, which can not be said to be complete. Still this is sometimes necessary.

The case which I now report is of this class. It has excited great interest in all the professional gentlemen who have seen it, and, if I am correct in my diagnosis, it is, so far as I can learn, entirely unique.

The patient is a boy, born in March, 1886, in the city of New York. About the middle of June of that year I saw him for the purpose of vaccinating him. He was then of fair size for his age, plump as to flesh, lips of good color, and in every way an apparently healthy child. Early in July the family went to the sea-shore.

While there it was found that the child's wet-nurse was not a satisfactory one outside of her duties as nurse, and another was obtained. As he did not thrive, competent medical advice was sought, and the child was in part fed by other means than the breast milk. Although there was no diarrhœa, severe vomiting occurred. The temperature was persistently high, ranging in the neighborhood of 101° F. A more careful examination was now made, when a tumor was found in the right inguinal region, extending upward nearly to the level of the umbilicus and to or a little beyond the median line of the abdomen. Consultation was then had at different times with two eminent medical men of Boston, and their opinion was that it was probably a cancerous growth, the prognosis being, of course, very unfavorable. Meantime the child began to lose flesh at the rate of about three ounces a week—tested by scales—became very restless, sleeping insufficiently, and digesting his food imperfectly. On returning from the sea-shore the child was examined in New York by the family physician, a man of eminence, and his partner. The suggestion was made at this time that the tumor was a floating kidney, but more careful examination showed this theory to be untenable and it was abandoned. No further opinion was expressed, but the advice was given to take the child into the country, and when he had got into better condition exploration could be made by laparotomy, and the tumor removed if possible.

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* "Dublin Quarterly Surg.," 1866.

It was at this time, September 28th, and with this history, that the child came under my care. There was no satisfactory evidence that the tumor had grown since it was first discovered. The temperature was still too high, varying from 99·5° to 101°. The wasting continued, as shown by weighing the child every week. The second nurse, who still remained with the child, did not have sufficient milk for it, so that the artificial feeding was continued. Each night eighty-five drops of paregoric were given, or the attempt was made to give it, not always successfully, and twenty drops of brandy were given every three hours. The amount of sleep thus obtained was very unsatisfactory, and there was profuse sweating of the arms and head whenever the child did sleep.

Proceeding to examine the child, I found him pale and thin, but could not call him anæmic or emaciated. There was a fullness of the right side of the scrotum, and I was told that it had been diagnosticated as a hydrocele. At this time I did not examine this carefully, but a few weeks later I found a large right scrotal hernia and very little fluid. My attention was mainly given to the tumor.

The lower edge of this mass was a little above the pubes, and the upper edge, which was more irregular than the lower, was nearly on a line with the umbilicus. Its right side reached to the ilium, and nearly to the axillary line. The left extended a little beyond the median line of the abdomen. The surface presenting toward the abdominal walls was smooth, without nodulations, not so hard as cancerous growths of the hard variety, and not so soft as others. This mass could be pressed upward till its lower border was nearly on a level with the umbilicus, and its upper surface passed slightly behind the margin of the cartilages of the ribs. It could be carried to the left side till it reached well toward the left ilium. This examination reminded me of a case which I had seen nearly forty years before, and which was verified by an autopsy. In that case malformation of the liver was recognized, and in the examination it was found lying directly behind the umbilicus. In shape it was almost a perfect hemisphere, its convex surface being that toward the abdominal wall in front. With this thought I proceeded to examine the hepatic region of the patient. There was entire absence of the natural flat sound of this region, and resonance throughout, which was not due to distension of the colon or other intestines by gas. Careful auscultation detected puerile respiratory murmurs down to the very edge of the costal cartilages, and distinct normal pulmonary sounds throughout the whole of the right thorax. Neither was there any evidence of a malformation by the location of the liver on the left side. On turning the child upon his left side, the tumor fell down almost to the left ilium. It returned to its former position when the child was turned upon its right side. On holding the child as nearly vertical as possible, with his feet up and head down, the tumor at once fell to the margin of the ribs, as it had previously done when pressed up by my hand. All these examinations were made with the child entirely nude. At no time did he give any sign that they caused him the least pain, or anything more than slight annoyance or discomfort.

It is not necessary to give the details of other repeated examinations of this patient, made not only by myself, but by medical friends. My opinion, formed at my first examination, confirmed by my colleagues and supported, I believe, by the few authorities upon the subject which were accessible to me, is that the tumor is the liver—dislocated and movable—so that, following the bad nomenclature used in a similar condition of the kidney, which calls it floating or wandering, I called it a floating liver, or a wandering liver.

Before passing to the treatment of the child, for the sake of unity, I will here add that about five months after the child came under my care, at the request of a medical relative of the family, the patient was seen by a physician of New York largely occupied in the study of children's diseases. He made a careful examination, and gave a very decided opinion that the tumor was a sarcoma of the kidney. He disagreed with me as to the physical signs of absence of the liver from its normal position, but did not seem to me to be very thorough in his examinations in this particular, and did not auscultate the region. About one year later he visited the child with me again. He then frankly stated that he was in error, but did not, while abandoning his theory, say that he accepted mine. Meantime the child has continued in good health, except when suffering from occasional colds, usually bronchitic, and when he had the measles during the last summer while in England. The hernia was cured by the regular and systematic retention of the intestine by a compress secured by a T-bandage. The child is now quite up to the average weight of children of his age and seems to be in perfect health.

The treatment of the child has been as follows: As rapidly as possible the brandy and the paregoric were withdrawn, the former within a fortnight, and the latter in about four weeks. A new nurse, an excellent one, was obtained, and all artificial feeding was stopped. To prevent the profuse sweating, a solution of quinine in whisky (twenty grains of quinine, one ounce of whisky, and sufficient sulphuric acid to dissolve the quinine) was rubbed into his back. Of this solution one teaspoonful in two more of whisky was used night and morning. One teaspoonful of Muller's cod-liver oil was rubbed into the skin of the abdomen each day. The epidermic use of the oil was discontinued in December. The quinine mixture was lessened to one application in December and entirely discontinued in January. No medicines were given by the mouth. Under this treatment the sweatings became less and finally disappeared, excepting occasional perspiration about the head during sleep, but this was not more than often occurs in children of average good health. The child began to sleep more, and, although not often for more than two hours at a time, he got twelve or fourteen hours of sleep out of the twenty-four.

After changing nurses the last time there was a little looseness of the bowels, some undigested though small curds appearing in the stools. The curds gradually disappeared in four or five weeks. Slight constipation followed, which was easily removed by soap suppositories or enemata. There has never been any marked absence or excess of bile in the stools. The history of the child's nourishment from this time has been that of healthy children.

For a month after the child came under my care he continued to lose in weight from one to three ounces a week, as shown by weighing him regularly. Then he neither gained nor lost for two weeks. After that he began to gain in weight about as rapidly at first as he had formerly lost, and then progressively more and more, until he had reached the limit of the capacity of the steelyard used.

When two and a half years old he weighed twenty-nine pounds.

On the thirty-first day of October, 1888, I again examined the child carefully. He does not yet walk, but there is no paralysis, and he is simply backward in this respect. The tumor remains in the same place, has not increased in size materially, and is not as movable as formerly. The increase of adipose tissue prevents one from examining it as completely as formerly. The conditions in the normal seat of the liver remain the same that they have always been.

Immediately after my first examination of the child I was so urged by his parents to tell them what my diagnosis was that I consented to do so, but reserving the right to change it, if I desired to do so, after consulting books. I have found only one book in which the subject is mentioned. In von Ziemssen's "Cyclopædia" (vol. ix, Am. ed., pp. 48 to 57) Thierfelder has brought together nine cases under the titles of "floating liver," "hepar migrans," and "fegato ambulante," but none of them had been verified by autopsy. All of these cases occurred in women who had borne children. In seven of the cases there is scarcely any doubt of the correctness of the diagnosis (Thierfelder), though the remaining two are not quite so clear. The ages varied from twenty-nine to fifty-four years. In at least half the cases there was a relaxed pendulous abdomen. The only ætiological factor to which any influence can be ascribed is sex.

The peculiar diagnostic sign mentioned by Thierfelder—that in making efforts to carry the liver to the left side it was observed to swing in the arc of a circle, approaching the left costal cartilages—was, I think, evident in this case, but the abdomen was so small that it was impossible to say positively that it was so.

In connection with Thierfelder's cases it is of interest to note the report by Dr. Alexander Y. P. Garnett ("Am. Journal of the Med. Sciences," January, 1881, p. 110) of a case of "Accidental and Sudden Dislocation of the Liver, with Recovery." The patient was a woman of about fifty years, the mother of several children, so that it comes in line with Thierfelder's cases as to sex and probable distension and weakening of the abdominal walls. The cases in von Ziemssen's "Cyclopædia" do not seem to have been known to Dr. Garnett, and there is no account of the application of Thierfelder's diagnostic marks to this case. Mention is made, however, of the lung sounds in the hepatic region, and these correspond with those of my case. Dorsal decubitus, lower limbs flexed, warm fomentations with an anodyne, followed by an enema, resulted in the return of the liver to its place on the fourth day. In reply to my inquiries concerning this case, Dr. Garnett wrote to me on the 16th of May, 1888: "It was evidently an accidental dislocation, produced by mechanical force, and not the result of any pathological processes going on in any adjacent organs. The woman has enjoyed perfect health ever since."

Displacement of the liver taking place gradually has long been recognized as the result of tight lacing. The ill health accompanying this condition seems to be due as much to the derangement of other organs by the lacing as to the changed position of the liver. Entire transposition of the heart and liver—congenital—has been recognized in persons otherwise in good condition so far as the functions of these organs are concerned. An instance of this was reported by Dr. E. C. Seguin in the issue of the "Medical and Surgical Reporter," Philadelphia, for January 15, 1887.

In reference to the diagnosis of sarcoma mentioned before, it is proper to say that it was a natural and probable diagnosis at the time it was made. The history of the child, the abdominal tumor, and the continued loss in weight might well suggest this disease. In my judgment, this could have been corrected only by observing the absence of the liver from its normal position. The subsequent history of the case shuts this diagnosis out. So far as I can learn, there is no record of any case of this disease in which any amount of activity has been followed by perfect quiescence. When it once begins to be active it continues till it destroys life.

Reference has been made to the fact that in no case has the diagnosis of floating liver been tested by autopsy. This leaves it still an open question whether or not the diagnosis is justifiable. If it was so in Thierfelder's cases, I believe it is so in mine, and this is unique from its occurrence in an infant and in a male. All speculation as to whether or not any departure from the normal conditions of the liver attachments exists must still remain a mere matter of speculation.

Clearly, however, the history of this case is sufficient to make one hesitate as to doing any operation for the removal of such a tumor till the malignant nature of the disease has shown itself by more or less rapid growth. One case has come to my knowledge in which, a portion of an abdominal tumor having been removed, a microscopical examination showed it to be a portion of the liver. No autopsy was allowed when the necessarily fatal result followed.

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# RARE FORM OF URINARY CONCRETION IN THE BLADDER REMOVED BY LITHOLAPAXY.*

By GEORGE CHISMORE, M. D.

Early in January, 1889, I removed from the bladder of Dr. J. W. a small but very peculiar foreign body, unlike anything I have heretofore encountered. I regret my inability to present a fuller history of the case, as a promised statement from the patient himself has not yet come to hand.

He was about forty years of age, and had suffered for several years, at intervals, from vesical distress, for which he had consulted a number of specialists in genito-urinary surgery. The general opinion, in which he concurred, had been to attribute his distress to stricture of large caliber, and he had undergone both internal urethrotomy and gradual dilatation, experiencing temporary relief from each.

When he consulted me he was passing large quantities of pale, turbid urine of low specific gravity, loaded with phosphates, but devoid of albumin; it was alkaline at times, but not ammoniacal; micturition was frequent and occasionally painful, and he suffered from a constant discomfort in the prostatic region. He was of nervous temperament, inclined to be despondent, and had been passing sounds and washing out the bladder, irregularly, himself. I took the view that the case was one of over-treatment and hypochondria, directed him to cease all local measures, and prescribed a mineral acid. Finding the symptoms persist, I explored the urethra with negative results, and at length made a search of the bladder. When about removing the searcher, confident that there was nothing wrong with the viscus, I caught a faint sense of touching some soft, movable body. It did not feel gritty, nor could I find it again after many attempts. To solve the puzzle, I introduced my combined lithotrite and evacuating tube, having first cocainized the bladder and urethra. After connecting with the aspirator and washing back and forth a few times, on closing the jaws of the lithotrite a body a centimeter and a half in diameter was found within the grasp. It did not impart the slightest feeling of *grit*, but seemed a fold of the bladder or some fleshy mass. Movement soon convinced me that it was unattached, and, closing the instrument firmly, I proceeded to crush it. Soon pieces appeared in the reservoir, and I completed the operation as in an ordinary litholapaxy. The substance removed consisted of fragments of brownish matter, looking and feeling like small pieces of well-soaked slippery elm; rubbed between the fingers, a few particles of sandy matter could be felt. He recovered without an unfavorable symptom, passing *per urethram* one rather large and several small pieces of the same material. No blood was drawn during the operation.

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* Read before the American Association of Genito-urinary Surgeons at its third annual meeting, May 22, 1889.

When dry, the color changed to white, and the fragments assumed the appearance of tough, dry punk, interspersed with a few thin, small iridescent scales. I have not had the time to attempt to make out its composition. This is not material to the purpose of this report, which is to call attention to the fact that a foreign body capable of giving rise to much vesical distress may exist and readily escape even a careful search made in the usual manner, and to ask if any fellow-member has met with a similar experience.

I have seen the doctor many times since the operation, the last time early in April, and he has remained completely free of his old trouble and has improved greatly in his general health. An analysis of a specimen of his urine, made March 16, 1889, over two months after the operation, gave the following results: Clear, pale yellow, strong urinous odor, acid; specific gravity 1·010; no albumin, indican, or sugar; 1·4 per cent. urea. Under the microscope there were a few cells of pavement epithelium; a few pus corpuscles; no casts.

San Francisco, *May 3, 1889.*

## A CASE OF CYSTIC DEGENERATION OF THE KIDNEYS.

By B. C. LOVELAND, M. D., F. R. M. S.,
CLIFTON SPRINGS, N. Y.

Last autumn I conducted a post-mortem examination on a case of much interest and withal a rare one, and, since none of the physicians who from time to time had the case in charge have reported it, I will give you the results of what I found.

The man, Mr. W. V., died August 2, 1888, forty-three years old. I had not seen him during his illness, but during the last week of his life his urine was frequently brought me to examine. I first found it of the smoky tint peculiar to hæmorrhage from the kidney, but did not find casts till a day or two later, when I found granular casts. The specific gravity was 1·015; the reaction neutral or slightly alkaline. Until the day before his death the quantity was large; the attending physician told me he measured it one period of twenty-four hours and found it five pints. It gave tests for albumin, but scarcely more than the blood and pus would account for. One peculiarity which I noticed in the microscopical examination, and also showed to Dr. Marshall and others, was that the white blood-corpuscles were alive and undergoing amœboid movements for several hours after the urine was voided. I watched them flow around and envelope bacteria or vibriones, which were numerous in the urine, and, after apparently digesting them, again resume their original spherical form.

I was asked to conduct the post-mortem examination. There were present Dr. Gault, Dr. Archer, Dr. Vincent, and Dr. Marshall. It was proposed to examine the abdominal and thoracic viscera, and I, with the aid of Dr. Marshall, proceeded to open and examine the contents of those cavities. The first we noticed after getting into the abdomen was two large tumors nearly filling the cavity, extending from the liver, which seemed healthy, on the right side and the diaphragm on the left side to the iliac fossa of each side. The ascending colon and small intestines were considerably displaced toward the median line and were tympanitic; the transverse colon was also filled with gas;, the descending colon not displaced, empty, and contracted; bladder empty. The tumors referred to were the kidneys, having undergone cystic degeneration, and measured and weighed as follows: Right kidney, length twelve inches, breadth eight inches, weight eight pounds. Left kidney, length fourteen inches, breadth nine inches, weight ten pounds. I did not measure the thickness, but they were five or six inches thick. They were composed mainly of cysts containing urine. The cysts varied in size from the size of a pea or smaller to that of a large hen's egg. There was no ascites. The heart was slightly hypertrophied. The lungs were normal, but with a few pleuritic adhesions. Photographs were made of the kidneys, and one of the kidneys I have preserved.

I learn that the history of the case had been one of chronic Bright's disease running over some five or six years. During the last two years he had had frequent hæmorrhages from the kidneys, but had been up and attending to business till within a week or so of his death.

The case seemed an interesting one to me, by reason of the size and condition of the kidneys, the way the white blood-corpuscles lived in the urine, which I had not noticed in any case before, and also because the man seemed to suffer so little inconvenience for so long a time after the disease must have been well advanced.

**The Prevention of Consumption in Berlin.**—The "Lancet's" Berlin correspondent says that, as it has been proved that the spread of consumption is largely due to the circumstance that the sputum of consumptive patients, which always contains tubercle bacilli, floats about in the air after being dried and pulverized, and is inhaled by healthy people, the President of Police has, therefore, ordered that consumptive patients in hospitals shall be kept in special wards, and forbidden to expectorate on the floor or into their handkerchiefs, but only into vessels partly filled with water; that the sputa shall be removed in a wet condition; and that their clothes and linen shall be thoroughly boiled and disinfected. These regulations are to be enforced not only in hospitals, but also wherever consumptive patients live.

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## A WORTHY CHARITY.

The relation existing between the medical charity institution and the medical man who is connected therewith has for so long a time been one of glory and profit to the former and of hard labor, with experience for pay, to the latter, that we were but ill-prepared for the movement which has recently been instituted by the "Evening World." The founding of an eleemosynary institution has of late years been accomplished by the incorporation of a variable number of persons of more or less prominence in society or business circles into a benevolent association as a beginning. With perhaps a large sum of money, which has been given or bequeathed by one person, and what other amounts are subscribed by churches or individuals, a more or less pretentious building is erected, and the hospital is opened with the idea of paying a large part of its current expenses by the receipts from board ("including medical attendance") paid by the patients, to whom charity is to be lavishly supplied. Incidentally a certain number of physicians are kindly allowed to give a greater or smaller part of their time and professional skill to the service of the hospital, and are sometimes permitted to make suggestions as to the sanitary condition of the building, or as to what members of their profession should be associated with them in their work. By a most ingenious, albeit complicated, system of rules and of espionage the amount of time and labor given by the medical staff is regulated, so that the recipients of its charity may not complain too loudly of the neglect or harsh treatment shown them when their whims are disregarded or their refusal to comply with the regulations laid down by the physicians is not deprecated by the latter.

At the annual ceremony of removing the opaque bushel from the shining light of the institution the medical staff is mentioned as worthy of commendation for its labor, but this is usually done as an afterthought, and as evincing a determination to give credit to all impartially. It is apt to take some such form as this: "In this connection it is but simple justice to express our appreciation of the faithful and efficient service rendered by our superintendent and the physicians of the visiting and house staff. . . . To each one the managers offer their sincere thanks for the faithful co-operation which has so greatly lightened the labors and responsibilities of the managers." Ah, a pretty wit hath the hospital manager! By dint of attending a monthly meeting of an hour's duration, or by the experience gained from a few figures and a glance or two at reports, the manager gains a knowledge of the medical needs of hospital patients more extensive than any medical education or experience could afford him. To his mind, therefore, the necessity for a medical staff exists only in the popular delusion that a hospital and a physician form a combination that is necessary to the existence of the former. To him it really is but simple justice to mention the fact that his labors have been lightened by the physician, even as his stenographer or his managing clerk is of service to him in his business. They all spare him the trouble of doing everything himself. He never appreciates the fact that he borrows from Peter in order to benefit Paul, and, although he allows his note to go to protest, he figures as the true benefactor of the latter. Peter may be a fool to lend his money without security, but that does not change matters in the least so far as equity is concerned. He gets neither his money nor the credit of giving it, while he at least deserves one or the other recompense; and often he is accused by the beneficiary, Paul, of foisting ragged bank notes or plugged coin upon him in lieu of lawful money. The manager wallows in a reputation of benevolence meantime, and despises both the stepping-stones that he has made use of in mounting to the conspicuous position he occupies.

But to return to the project of our contemporary. Having noticed the fact that the need for medical care of the sick children of New York was great during the hot term, it heads a subscription list with a contribution, and solicits others to follow its example; and for what purpose? Not that of renting a suite of offices; not to print and distribute circulars appealing to the rich to contribute; not to employ district agents, secretaries, spiers-out of the land whence comes the cry of distress; not to erect some costly chapel, with the names of the original promoters of the charity engraved upon a tablet, but for the ridiculous and unprecedented purpose of employing a few physicians—actually paying doctors for their time and work—to relieve the sore distress of the infants who die like flies in a wire trap every summer in New York. The hospital manager, if he is in town, will laugh at the idea of paying for what he almost receives payment for receiving; but the man who sends the dollar, which represents a greater loss to him than a ten-thousand-dollar check would to the manager, understands by the term charity the giving of what costs something to the giver; not that which costs nothing as a kind of prize chromo to induce the object of the charity to pay for what the benefactor is obliged to buy, or to help make up the discrepancies existing in the profit-and-loss account of the charity—borrowing from Peter and not paying back the loan; giving this to Paul; then exacting a large mileage and commission from the latter, and posing before the public as the benefactor of all parties concerned!

This charity deserves the hearty support of the medical profession, for it smacks of practical benevolence. Let each member give it his support, either by his influence or by his money, and thus show his appreciation of a truly charitable enterprise, which emulates the example of the Good Samaritan, who not only bound up the sufferer's wounds, but deposited his penny to pay the subsequent expenses of the treatment.

## *MINOR PARAGRAPHS.*

### A COMMUTATION OF ANNUAL DUES.

At the Brooklyn meeting of the Fifth Branch of the New York State Medical Association the success was reported of a scheme whereby the members could avoid the inconvenience of having to pay small sums, year by year, by the payment of a lump-sum in advance. A sufficient subscription has been received to enable the branch to purchase a bond the interest of which will cover all ordinary annual expenses. To all intents and purposes, therefore, the branch will become a "free" institution. This plan was carried through by the printing and employment of two short circulars and a few letters of explanation. This method of creating a fund should commend itself to nearly all our minor organizations having a widely scattered membership, whose very perpetuity is sometimes endangered on account of the embarrassment which, in the minds of many, attends the sending of a small sum to a distance. This example, having been made a success, may be followed with much comfort and satisfaction in other quarters. Information concerning the execution of the plan may be had of Dr. Edward H. Squibb, of Brooklyn, the permanent secretary of the society mentioned.

### THE ILLINOIS STATE BOARD OF HEALTH.

The aggressive board of health of Illinois has, by its faithful efforts to suppress illegal practice in that State, aroused much enmity among the baser sort, and an attempt was made in the last Legislature to repeal the act under which the board was organized. This did not succeed, being smothered in committee. Another attack was made in the form of a motion to strike out its appropriation, and this has mistakingly been reported as having been carried. This measure was defeated, and the administration, under Dr. Rauch, the secretary, will not be paralyzed for the want of funds. The attack will probably be renewed in the Legislature next year, in one form or another.

### JOY AMONG THE CONVICTS.

The prisoners at Sing Sing are said to have sent up a shout of joy when they heard that the bill permitting them to go to work had become a law. For a year they have been idle, in consequence of the Yates bill, and sickness and lunacy have been more frequent than ever before in the history of the prison. Largely through the efforts of the State Charities Aid Association the Fassitt bill has been passed, permitting the prisoners to go back to the shops. Work in the factories will be resumed in a short time, and the prisoners are themselves hard at work putting the machinery and shops in order. The testimony of the physicians and keepers shows that the prisoners have suffered to a surprising degree, both in body and in mind, from their enforced idleness.

### THE PENNSYLVANIA STATE MEDICAL SOCIETY.

The annual meeting of this society was appointed for Tuesday, June 4th, at Pittsburgh, but we learn that the interruption to railroad travel and other considerations consequent upon the recent disasters in the western part of the State rendered it advisable for the meeting to adjourn until September. So far as is known at present, no member of the society residing in the Conemaugh Valley lost his life, but the local society of Cambria County has lost severely. Among these lost members were Dr. Brinkey, Dr. Cooper, Dr. Marbourg, Dr. Wagoner, and Dr. Wilson. It is reported concerning Dr. Wilson that he and his entire family were swept away together, his residence having been in East Conemaugh.

### ETHER-DRINKING IN IRELAND.

In the counties of Tyrone and Londonderry, Ireland, the use of ether in the place of whisky, as an intoxicant, has become prevalent to such a degree that the synod of the Church of Ireland have addressed the authorities with a petition in favor of the restriction of traffic in ether. In Londonderry the police have reported a wide extension of the habit, and the insane asylum records recognize the practice as becoming one of the contributory causes of insanity. In Tyrone ether-drinking has been less common and has not been considered to have any causative bearing on mental disease.

### THE BROOKLYN WOMAN'S HOSPITAL AFFAIR.

For several weeks past some of the Brooklyn newspapers have devoted much of their space to statements damaging to the conduct pursued by two medical officers of the hospital and to counter-statements sustaining their course. We have refrained from comment on the affair, for, pending the judicial investigation, it is impossible to get at the real facts in the case. It is proper for us to say, however, that the probability of the necessary impairment of the hospital's usefulness is not pleasant to contemplate, and that the accused physicians deserve at least a suspension of popular judgment until the trial determines in what respects they have offended, if at all.

### THE BISHOP AUTOPSY CASE.

Now that indictments have been found against the three reputable physicians who took part in the autopsy in the case of Bishop, the mind-reader, it is to be hoped that the sensation-mongers are appeased for the time being, and there is still more ground for hoping that the Court will content itself with imposing upon them, in case of their conviction, the lightest penalty allowable. It can not be charged that what they did was done with any evil intention; it was a mere technical violation of a law that is almost unknown to the profession and that seems to have been disregarded by the coroners on occasion. We are aware that ignorance of the law is not held to be a legal defense of its infraction, but it certainly should go far in palliation. As for the allegation that Bishop was not really dead at the time of the autopsy, it is too unwarranted to call for argument.

### THE JEFFERSON MEDICAL COLLEGE.

Four of the physicians lost by the Johnstown disaster were alumni of the Jefferson Medical College, namely, Dr. Brinkey, Dr. Cooper, Dr. Marbourg, and Dr. Wilson. This will not appear strange when it is known that the Jefferson representatives in the county society are nearly as numerous as those of all other schools combined. Recognizing the perils of her sons in the ill-fated valley, the faculty of Jefferson has been promptly on the field with a relief corps with one of her professors at its head.

### ITEMS, ETC.

**The Medical Society of New Jersey** will hold its one hundred and twenty-third annual meeting at the Coleman House, Asbury Park on Tuesday and Wednesday, the 18th and 19th inst., under the presidency of Dr. H. Genet Taylor, of Camden, who will give an address entitled "Retrospection of the Medical Society of New Jersey, with some Suggestions as to its Improvement." Discussions of the following subjects are announced: "Perityphlitis, its Diagnosis, Pathology, and Treatment" (to be opened by Dr. J. G. Ryerson); "The Advantages and Disadvantages of Intubation of the Larynx in lieu of Tracheotomy" (to be opened by Dr. W. U. Selover, of Rahway); "The Revived Use of Calomel, with Special Reference to its Preventing Plastic Exudation" (to be opened by Dr. J. D. Osborne, of Newark). Among the papers to be read are the following: "The Inheritance of Disease," by Dr. E. J. Marsh, of Paterson; "Some Recent Advances in Pelvic Surgery," by Dr. H. M. Weeks, of Trenton; and "The Value of Creasote in Fifty Cases of Chronic Disease of the Air-passages," by Dr. W. P. Watson, of Jersey City.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 11, 1889:

| DISEASES. | Week ending June 4. | | Week ending June 11. | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 10 | 3 | 12 | 2 |
| Scarlet fever | 176 | 26 | 127 | 27 |
| Cerebro-spinal meningitis | 4 | 4 | 4 | 4 |
| Measles | 100 | 10 | 104 | 7 |
| Diphtheria | 132 | 32 | 146 | 41 |

**Change of Address.**—Dr. F. Le Roy Satterlee, to No. 8 West Eighteenth Street.

**The Nu Sigma Nu Fraternity.**—The Beta Chapter of the fraternity was instituted at Detroit on the 30th of May. The ceremonies of the evening were conducted by Dr. F. W. Main, of Jackson, Michigan, with the assistance of officers of the Alpha Chapter at Ann Arbor. This organization is strictly confined to regular practitioners and students of medicine. It is said to be growing rapidly, and it is thought that several new chapters will be instituted in other cities during the year.

**The New York Polyclinic.**—This institution has increased its hospital facilities by the purchase of a large building immediately adjoining its original property, and, after making the necessary changes, will furnish the new building and open it on the 16th of September, when the regular session will begin. New appointments have been made as follows: Dr. Thomas R. Pooley, professor of ophthalmology; Dr. B. Sachs, professor of neurology; Dr. L. Emmett Holt and Dr. August Seibert, professors of diseases of children; Dr. H. Marion-Sims, professor of gynæcology; and Dr. William H. Fluhrer, professor of genito-urinary surgery.

**The New York Post-graduate Medical School.**—The summer term will open on the 17th of June. Although the clinical facilities are equal to those of the winter, the fees for this session are only half as large as those for the winter term.

**Sir William Stokes, Bart., M. D.**—This eminent Dublin surgeon was made a baronet by the Queen, on her last birthday, May 24th. Dr. Stokes and three other faithful citizens were distinguished from their fellows by the bestowal of titles in commemoration of the day. He had received knighthood three years before, he had been honored by the profession by election to the presidency of the Royal College of Surgeons in Ireland, and he may be said to have reaped all the honors that can be attained by surgical eminence in his country.

**Journalistic Changes.**—The "Medical and Surgical Reporter" for June 1st states that the "Medical News," now edited by Dr. I. Minis Hays, will soon come under the direction of Dr. Hobart A. Hare, one of the editorial committee of the "University Medical Magazine." Dr. Hays will continue to have charge of the "American Journal of the Medical Sciences." The new arrangements in regard to the "News" will take effect on the 1st of October. Dr. Hare is known as a painstaking contributor to the journals and as an instructor in the Medical Department of the University of Pennsylvania. He is also a member of the faculty in the department of biology. A change of publishers has taken place for the "Boston Medical and Surgical Journal," Damrell and Upham now having the journal in charge.

**Triple Births.**—Dr. Bernard Ornstein, ex-surgeon-general of the Greek army, is engaged upon a memoir pertaining to information relative to the frequency of triple births in the human race and the length of time the children may survive. The points on which information is earnestly desired are: 1. Give the number of well-authenticated cases of triplets in which all the children have reached the age of two years or more. 2. Give cases in which two of the triplets have survived the age of one year or more, and also in which one of the three has lived one year or more. Information will be thankfully received by Dr. Ornstein, Athens, Greece, or it may be forwarded to Dr. W. J. Hoffman, of the Bureau of Ethnology, Washington, D. C., who will transmit the same.

**The University of Vienna** has recently lost two well-known members of its medical faculty by the death of Dr. August Breisky, ordinary professor of obstetrics, and Dr. R. Ultzmann, extraordinary professor of diseases of the urinary organs.

**The American Climatological Association** will hold its sixth annual meeting in Boston on Monday and Tuesday, the 24th and 25th inst. We shall publish the substance of the programme in our next issue.

**Recent Deaths.**—Dr. George William Cooke died at Kingston, Ulster County, N. Y., on the 8th inst., of cardiac disease. He was born at Otego, N. Y., in 1828, and was a resident of that town for fifty-four years. He was graduated in medicine from the Castleton Medical College, Vermont, in 1849; in 1872 he took an *ad eundem* degree at Bellevue Hospital Medical College. He was prominent in the Otsego County society, whence he served as delegate to the State society, becoming a permanent member in 1875. He was one of the charter members of the State Medical Association. He removed to Kingston in 1882, and two years later was appointed by Governor Cleveland a commissioner in the State Board of Health.

Dr. Samuel P. Moore, of Richmond, Va., died suddenly on the 31st of May, aged seventy-four years. He was the Surgeon-General of the Confederate forces during four years of the late war. He was a native of South Carolina, and was appointed from that State an assistant surgeon in the army in 1835, was promoted to be surgeon in 1849, and resigned in February, 1861, to enter the Confederate service. During recent years his home has been in Richmond, where he was enlisted in educational matters, becoming a member of the School Board. His sudden demise was referable to congestion of the lungs.

Dr. Abner Marshall Smith died at Pittsfield, Mass., on May 23d, of peritonitis, after an illness of ten days. He was sixty-eight years of age, and had been a resident of Pittsfield for thirty-five years. His degree in medicine he obtained in 1846 from the old Berkshire school. He was a prominent figure in the medical societies of his State, and had been the presiding officer of the Berkshire District Association. He was one of the pension examiners for a number of years for the western part of his State. He had been a member since 1854 of the State society, and a councilor for several terms.

Dr. William H. Whitley died on the 29th of May in Paterson, N. J., in which city he was born on November 23, 1833, his father having been the late Thomas Whitley, the artist. During the late civil war he resided at Washington, serving both as hospital steward in the regular army and as ordnance clerk. While there he studied medicine, and was graduated from the Georgetown Medical College in 1866. He was a member of the Medical Society of the District of Columbia from 1867 to 1872, in which latter year he relinquished practice in Washington and moved to Paterson. His death was sudden, and is believed to have been due to a congestive chill.

Dr. Frederick A. Rehwinkle, of Chillicothe, Ohio, died of apoplexy on the 8th of June. He was a surgeon of high repute in southern Ohio, and had been selected to preside over the Section in Dental and Oral Surgery at the coming annual meeting of the American Medical Association, his address before the Section being set down for June 25th. He was one of the secretaries of the International Medical Congress of 1887, and his marked linguistic attainments contributed largely to his usefulness in that position. His obsequies were ordered according to the most solemn rites of the Masonic body, the deceased having risen to the thirty-third degree of his fraternity.

Dr. Charles T. Reber died on May 10th, at Faucher, Ill., aged fifty-three years. He was a graduate of Jefferson Medical College in 1856, formerly a resident of Reading, Pa., and surgeon of the Forty-eighth Regiment of Pennsylvania Volunteers. He moved to Illinois about two years ago.

Dr. Samuel G. Lane, of Chambersburg, Pa., died on June 4th, in his sixty-third year. He was an alumnus of the University of Pennsylvania of the class of 1849. He had been surgeon of the Fifth Regiment, State Reserves, and assistant surgeon-general, secretary of the Franklin County Medical Society, and at the time of his decease a trustee of the State Lunatic Asylum. The cause of his death was apoplexy.

Dr. James Murphy died at his home in Brooklyn on the 8th of June, at the age of twenty-eight years, after an attack of acute rheumatism of a week's duration. He was a graduate of the Medical Department of the University of the City of New York of the class of 1883. He had been an assistant inspector in the service of the Brooklyn Board of Health.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from May 26 to June 8, 1889:*

BILLINGS, JOHN S., Major and Surgeon, by direction of the Secretary of War, is authorized to make, in connection with his duties as supervisor of mortality and vital statistics of the eleventh census, such journeys as may be ordered by the superintendent of the census, provided that, in each case, the approval of the Surgeon-General shall be obtained; and provided, further, that the journeys shall involve no charge against the fund for transportation of the army. Par. 12, S. O. 122, A. G. O., May 27, 1889.

BROWN, PAUL R., Captain and Assistant Surgeon, by direction of the Secretary of War, is granted leave of absence for six months on account of sickness. Par. 13, S. O. 122, A. G. O., May 27, 1889.

The resignation of WILSON, GEORGE F., Captain and Assistant Surgeon, was accepted by the President, and took effect May 31, 1889.

FISHER, WALTER W. R., Captain and Assistant Surgeon. The leave of absence for one month granted by S. O. No. 30, c. s., Department of California, is extended fifteen days. Par. 3, S. O. 37, Headquarters Division of the Pacific, San Francisco, Cal., May 22, 1889.

GLENNAN, JAMES D., First Lieutenant and Assistant Surgeon, by direction of the Acting Secretary of War, is relieved from duty at Willet's Point, N. Y., to take effect June 1, 1889, and will proceed to Fort Riley, Kansas. Par. 5, S. O. 121, A. G. O., May 5, 1889.

RAFFERTY, OGDEN, First Lieutenant and Assistant Surgeon. Ordered with troops for field practice to Galveston, Texas, where troops will camp for such time as may be hereafter directed. Par. 1, S. O. 29, Headquarters Department of Texas, San Antonio, Texas, May 13, 1889.

MERRILL, JAMES C., Captain and Assistant Surgeon, is, by direction of the Acting Secretary of War, detailed as a member of the board of medical officers appointed by Par. 9, S. O. 108, May 10, 1889, from this office, to meet at the U. S. Military Academy, West Point, N. Y., on June 1, 1889, or as soon thereafter as necessary, to examine candidates for admission to the Academy, etc., vice Captain Fred. C. Ainsworth, Assistant Surgeon, hereby relieved as a member of the board. Par. 4, S. O. 127, A. G. O., June 3, 1889.

OWEN, W. O., JR., Captain and Assistant Surgeon. The leave of absence for seven days granted in Orders No. 48, c. s., Fort Gibson, Indian Territory, is extended twenty-three days. Par. 2, S. O. 67, Headquarters Department of the Missouri, Fort Leavenworth, Kansas, May 29, 1889.

KEAN, JEFFERSON R., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. No. 48, May 13, 1889, Department of the Platte, is extended fifteen days. Par. 3, S. O. 129, A. G. O., June 5, 1889.

*Appointments.*

WALES, PHILIP G., appointed Assistant Surgeon, with rank of First Lieutenant, from June 7, 1889.

DEWITT, THEODORE F., appointed Assistant Surgeon, with rank of First Lieutenant, from June 7, 1889.

TEN EYCK, BENJAMIN L., appointed Assistant Surgeon, with rank of First Lieutenant, from June 7, 1889.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the week ending June 8, 1889:*

PAGE, J. J., Assistant Surgeon (retired). Granted one year's leave of absence to leave the United States.

BAILEY, THOMAS B. Appointed an Assistant Surgeon in the Navy, May 23, 1889.

BARBER, GEORGE H. Appointed an Assistant Surgeon in the Navy, May 23, 1889.

ROTHGANGER, GEORGE. Appointed an Assistant Surgeon in the Navy, May 24, 1889.

SMITH, GEORGE TUCKER. Appointed an Assistant Surgeon in the Navy, June 3, 1889.

BAILEY, T. B., Assistant Surgeon. Ordered to the Receiving-ship Dale at Washington, D. C.

BARBER, GEORGE H., Assistant Surgeon. Ordered to the Receiving-ship Vermont at New York.

OGDEN, F. N., Assistant Surgeon. Ordered to examination preliminary to promotion.

BRYANT, P. H., Assistant Surgeon. Detached from Naval Hospital Chelsea, and granted a month's leave of absence.

MAYO, H. O., Medical Director (retired). Granted one year's leave of absence, with permission to leave the United States.

**Marine-Hospital Service.**—*Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service for the two weeks ending June 8, 1889:*

MEAD, F. W., Passed Assistant Surgeon. Ordered to examination for promotion. May 31, 1889.

Carrington, P. M., Passed Assistant Surgeon. To proceed to Johnstown, Pa., on special duty. June 3, 1889.

McIntosh, W. P., Passed Assistant Surgeon. When relieved at New Orleans, La., to proceed to San Francisco, Cal., for temporary duty. May 29, 1889.

Smith, A. C., Assistant Surgeon. Relieved from duty at Louisville, Ky.; ordered to Marine Hospital, New Orleans, La. May 29, 1889.

**Society Meetings for the Coming Week:**

Monday, *June 17th:* New Hampshire Medical Society (first day—Concord); New York County Medical Association; Medico-chirurgical Society of German Physicians; Hartford, Conn., City Medical Association; Chicago Medical Society.

Tuesday, *June 18th:* Colorado State Medical Society (Denver); Medical Society of New Jersey (first day—Asbury Park); New Hampshire Medical Society (second day); Medical Societies of the Counties of Kings, Washington (annual), and Westchester (annual), N. Y.; Ogdensburgh Medical Association; Baltimore Academy of Medicine.

Wednesday, *June 19th:* Medical Society of New Jersey (second day); Northwestern Medical and Surgical Society of New York (private); Harlem Medical Association of the City of New York; Medical Societies of the Counties of Alleghany (annual) and Tompkins (annual—Ithaca), N. Y.; New Jersey Academy of Medicine (Newark); Philadelphia County Medical Society.

Thursday, *June 20th:* Dakota Medical Society (Mitchell); Minnesota State Medical Society (Minneapolis); New Bedford, Mass., Society for Medical Improvement (private).

Friday, *June 21st:* Chicago Gynæcological Society; Baltimore Clinical Society.

## Obituaries.

**James Bradbridge Hunter, M. D.,** died at his house, in New York, on Monday, the 10th inst., as the result of an acute illness that began with acute articular rheumatism and ended in pericarditis and endocarditis. Dr. Hunter was born in Geneva, N. Y., of Scotch parents, who subsequently went to live in Canada. He took part in the late civil war as a medical officer of an Indiana regiment of volunteers. At the close of the war he resumed the study of medicine, and was graduated from the College of Physicians and Surgeons, in the class of 1866. He then went to London, where he pursued a course of study in ophthalmology at the Moorfields Hospital. On his return to New York he became interested in gynæcology, and for many years was associated with Dr. T. Gaillard Thomas in hospital and college work. In 1872 he became one of the editors of this journal, and was its sole editor from 1874 to 1880, immediately preceding the present editor. For several years before his death he was one of the surgeons of the Woman's Hospital; he was one of the early members of the faculty of the New York Polyclinic, holding the chair of gynæcology; and he was an original and prominent member of the medical board of the new Cancer Hospital.

Although Dr. Hunter always remained a general practitioner, he was best known by his work in gynæcology. He was an acute diagnostician and an exceptionally cool and neat operator. He often contributed to the current gynæcological literature, and for the past ten years he had devoted as much time as he could spare from a very busy life to the preparation of a book on gynæcological operations. It is to be hoped that the manuscript of this work will be found to have been brought near enough to completion to warrant its publication. It is probable that he was not generally regarded as a brilliant man, but every intelligent observer of his career credited him with much more than ordinary carefulness and precision. There was never anything pretentious about his undertakings, but he was wont to carry them through where more showy men would have failed. As a family physician he was painstaking and in the highest degree competent. His patients felt for him more than mere appreciation—he won their devotion by showing his own. In his editorial career he evinced the same qualities of carefulness and good judgment that he showed in his professional work. When he ceased to edit this journal he did not cease to care for its welfare, as the present editor has had many opportunities of observing. As a teacher Dr. Hunter was methodical and effective. His character as a man was difficult of estimation except by those who knew him long and intimately; he had the demeanor and the facial expression of a cold-hearted man, but beneath the surface there was a glow of humanity that warmed many an aching heart by acts of beneficence that he studiously concealed even from those who were much with him. His death in the prime of life—at the age of fifty-two—leaves a void in the New York profession that will be widely recognized.

## Letters to the Editor.

### THE CATSKILLS AS A HEALTH RESORT.

1602 West Fayette Street, Baltimore, *April 30, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: I have been personally interested for some time past, both for the improvement of my own health and for that of others, in finding some suitable place not too distant from home that would afford relief, if not cure, in those forms of pulmonary disease likely to be benefited by a drier atmosphere and greater altitude. The Catskill Mountains have of late been brought more prominently before the profession by Dr. H. M. Wilson, Jr., who went there for his health after vainly trying southern resorts. The benefits he himself has derived from his residence near Tannersville have formed the basis of more extended investigations into the merits of the climate. Finding an opportunity to visit these mountains, I determined to take advantage of it and try the effect of the atmosphere in my own case. It is quite clear, of course, that a stay of two weeks can not give one an opportunity to judge how great the effect of several months' or a year's stay might be, and therefore the complete removal of laryngeal irritation, lessening of cough, cessation of purulent expectoration, disappearance of nausea, non-occurrence of evening fevers, and a feeling of increased muscular strength which have occurred in my own case, I do not look upon as being conclusive evidence of the value of the climate, but my sojourn has given me the opportunity to see those who came to this region some years ago for relief, and have found it even to the apparent entire cessation of pulmonary disease. I have therefore been much encouraged in the belief that we have here, comparatively near us, a place that presents advantages as a health resort which will certainly be more generally recognized in the near future by the profession.

The delightfulness of the Catskills as a summer resort is well known, and it will be only a short time, in my opinion, before it will be equally well known as a winter sanitarium for pulmonary complaints.

C. Hampson Jones, M. B., C. M. (Edin.).

# Proceedings of Societies.

## AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

*Third Annual Meeting, held at Newport, May 21 and 22, 1889.*

The President, Dr. Robert W. Taylor, of New York, in the Chair.

(*Concluded from page 641.*)

**Hunterian Chancre in the Female.**—Dr. Alexander W. Stein, of New York, read a paper which figured on the programme as "Cases." The first was that of a Hunterian chancre in a female. The patient was a domestic, aged nineteen years, who had noticed a marked degree of soreness in her genitals during a menstrual period, and shortly afterward a pimple below the left labium majus, which pimple had broken, according to her statement, leaving an erosion. The ulcerated surface was situated on an indurated base, and was not painful. The inguinal glands, as well as the cervical, were enlarged and hard; a mucous patch appeared upon the left tonsil and was cured with 0·6 grain of mercury protiodide daily, and the use of an astringent gargle. The sore on the vulva was treated with applications of black oxide of mercury. Twenty days later a mucous patch appeared on the right tonsil, but disappeared after specific treatment was employed. Well-authenticated cases of true Hunterian chancre in the female were not so common but that the report of this one might be of interest.

**Serpiginous Chancroid of the Vagina.**—The second case, one which the speaker believed to be unique, was that of a serpiginous chancroid of the vagina. The patient, aged twenty-five, had not been pregnant. One month before entering the hospital she contracted a sore in her genitals from her husband. At her entry there were scalding pain on micturition and acute pain in the left hip and thigh, and examination showed the presence of a phagedenic ulcer on the left wall of the vagina. The left inguinal glands were enlarged. The patient limped when walking, because of the pain in the left side, and there was an abundant purulent discharge from the vagina. She was very emaciated and weakened. Some time later a profuse hæmorrhage from the vagina occurred, which seemed to have its origin in the ulceration of the vagina, and for which the patient was treated with morphine and whisky. Other hæmorrhages occurred, but ceased before the house surgeon could arrive. Then followed retention of urine, requiring the use of the catheter. On a subsequent occasion, however, a stream of blood burst from the vagina, and tampons impregnated with solution of subsulphate of iron were applied, but the patient died shortly afterward from exhaustion. At the autopsy, twenty-four hours after death, the viscera in general were found markedly anæmic. All the pelvic organs were removed *en masse.* With the superficial ulceration on the left wall of the vagina there was connected a fistula leading upward and backward to the left side of the pelvic cavity, which was filled with blood in various stages of coagulation. The pelvic fascia was thickened, the lesser sacro-sciatic ligament was destroyed, and the gluteal muscles were dissected by the burrowing sinuses. The cause of the hæmorrhages was found to be an erosion of one of the branches of the anterior branch of the internal iliac artery.

The President had seen cases of chancroid in which fistulæ had burrowed among the muscles of the pelvis and dissected the rectum away from the surrounding tissues.

**Hereditary Syphilitic Transmission through Two Generations** was the title of a paper by Dr. E. E. King, of Toronto, in which he described the case of twins, a boy and a girl, who presented a rash when two days old, and each had sore mouth or sore throat, with diarrhœa and general debility. Two weeks later the skin of the girl became copper-colored and an eruption of a pemphigoid nature appeared; then both children had condylomata at the anus. Treatment with mercury caused the diarrhœa to cease, and the nutrition of the children improved for a time. The girl, however, died soon, but no autopsy was permitted. Desirous of ascertaining how these infants had come by their syphilis, the speaker had sought the source in the parents, but, to his surprise, the father showed no signs of having had the disease, and the mother had not had any symptoms of it up to the moment of birth of the twins. Soon after beginning to nurse them, however, she had an indurated lesion of the breast, which the speaker regarded as a chancre contracted from the mouths of the nurslings. She afterward showed roseola and other indubitable signs of syphilis recently developed. On the other hand, she presented no signs of hereditary syphilis, such as notched teeth, exostoses, etc. Her mother had had several miscarriages, which rendered admissible the theory of syphilis in her.

Dr. L. Bolton Bangs, of New York, said it was difficult to obtain clinical evidence of the sources of syphilis. This case seemed to him one of primary syphilis in the mother. If the theory of the transmission of syphilis to the third generation was admitted, it would open a horrible vista of suffering from this disease. When such cases seemingly presented themselves it was probable that some clinical facts which would elucidate the origin of the infection had not been obtained.

The President said that the presence of bullous lesions in syphilitic children was unusual at a late date. These lesions ordinarily came early, being among the first symptoms in children born syphilitic.

Dr. Abner Post, of Boston, remarked that there was no evidence that the mother had latent hereditary syphilis.

Dr. E. L. Keyes, of New York, agreed to the opinion that the mother had acquired syphilis from some other source than her children.

The President added that roseola due to hereditary syphilis in a woman twenty-four years old was unheard of. At that age quite different symptoms were found, such as gummata, lesions of the bones, etc.

**Malignant Tumors of the Inguinal Ganglia Secondary to Epithelioma of the Penis.**—The President, in this paper, said that the rarity of the occurrence of these hideous complications was probably the cause of the present want of knowledge on this subject. The first case reported was that of a man, fifty-four years old, with no history of cancer in his family. His last coitus had been nine years previous to his admission into Charity Hospital, where the speaker saw him. About three years ago wart-like bodies showed themselves on the prepuce, which eventually developed into typical fungous epithelioma of a trumpet-shaped appearance, the glans penis, also affected, nestling a little in retreat of the flaring edges of the prepuce. After operation (excision of the epithelial mass) the wound was treated antiseptically, and healed within three weeks with a perfect meatus (admitting a No. 30 Fr. sound). The inguinal ganglia on the right side were much enlarged, those on the left in a lesser degree. Just as the stump healed, the ganglia on the right side grew larger and the man became cachectic. Ulceration then began over the lower part of the ganglionic tumor, and a month or two later there were several threatening hæmorrhages from it. The growth grew to the size of one's fist. Its middle was seated just over Poupart's ligament. The cachexia deepened and the man died three months after the operation. At the autopsy the liver was found in a state of passive congestion and of fatty infiltration; the kidneys were normal. The new growth was found to extend down to the femoral vessels.

The second case was that of a German cigar-maker, aged forty-eight, who had no history of cancer in his family. The cancerous disease began about four years ago by the development of warty growths upon the prepuce. Three years ago the penis was amputated at the pubic arch for epithelioma. A year later the patient felt a hard lump in the right groin, which soon softened and ulcerated and malignant disease developed in the borders of the ulcer. To-day it consisted of a raw, red fungous mass nearly six inches long, parallel to Poupart's ligament, and emitting a nauseous odor. The man was cachectic, worried, and hopeless. His death, which was inevitable, would perhaps be due to the deepening of the cachexia or to one or more visceral new growths.

One point of interest in these cases was the origin of the disease in what seemed to be simple vegetations of the penis. Again, they showed the tendency, more marked beyond the fortieth year of life, for inflammatory and hyperplasic growths of the penis to become malignant. Involvement of the inguinal ganglia in cases of epithelioma of the penis was inevitably followed by death. It was impossible to remove all the diseased tissue.

Dr. Francis B. Greenough, of Boston, agreed with the president and others that condylomata acuminata, which easily degenerated into epitheliomata, should be promptly removed.

**Cases of Suprapubic Cystotomy** was the title of a paper by Dr. Bangs. (To be published.)

Dr. Watson preferred to cut directly through the so-called prevesical fat rather than to extirpate it. He regarded Petersen's rectal bag as a valuable aid in suprapubic cystotomy, in spite of the unfavorable criticisms of Trendelenburg and Thompson. If he expected bleeding from the section of the bladder, after that operation he would not sew up the wound entirely. He thought that the suprapubic operation should not be performed for calculus if the latter could be removed by perineal section.

Dr. John P. Bryson, of St. Louis, had been glad to hear Dr. Bangs speak about opening directly into the bladder in the median line. He regarded the dangers of the suprapubic operation as having been exaggerated. He did not advocate placing a drainage-tube in the so-called prevesical space, as some authors advised, and he preferred operating as high on the abdominal wall as possible, instead of nearer the pubes.

Dr. Keyes had come to consider the suprapubic operation as the best by all means. He deplored great distension of the rectum, and said that ten or eleven ounces of liquid were enough to inject into it. He insisted upon the advantage of making a clean, straight cut down to the bladder. He thought well of the method of rolling up the prevesical fat, and thought that the higher the bladder was opened the better. He advised avoiding the prevesical space, and never inserting the finger there. When hæmorrhage occurred in considerable quantity at the base of the bladder he used the snap-forceps for seizing the bleeding vessels. If this failed to arrest the hæmorrhage, a suture should be passed under the bleeding vessel and the ends tied. The walls of the bladder were strong, and would always hold. If much hæmorrhage persisted after the operation, it was just as well to leave the bladder open.

Dr. Bryson asked what should be done to relieve the pain often felt after operations on the bladder.

Dr. Keyes recommended the use of opiates. Vesical tenesmus might exist when there was no retention of liquids in the viscus and no distension of its walls, which was contrary to the French aphorism, "*pas de distension, pas de ténesme.*"

Dr. Arthur T. Cabot, of Boston, said that, contrary to Dr. Bangs's experience, he had found that when granulations formed about the drainage-tube, holding it firmly, the siphoning of the urine was performed better.

Dr. Bangs had preferred the suprapubic operation in two cases of tumor because they *were* tumors and because, hæmorrhage having occurred before the operation, he had expected it during and after operating, and he wished to have a large open wound to work through; but in the case of a young man in good health with a moderate-sized stone in the bladder, he would not perform suprapubic cystotomy, but litholapaxy. He had observed very little injury to the rectum by the employment of the rectal balloon. In regard to the phraseology connected with suprapubic cystotomy, the speaker thought that the expressions "prevesical space" and "prevesical fat" ought to be changed to *supravesical space* and *supravesical fat*, because the latter agreed more nearly with the anatomical relations of the parts concerned.

Dr. Keyes strongly disapproved of a transverse incision in performing suprapubic cystotomy.

**Scirrhus of the Bladder.**—Dr. Cabot read a paper on this subject and presented a specimen. When he first examined the patient he found signs of calculus. He gave ether and tried the lithotrite, but without success. He then performed suprapubic cystotomy, but, on incising the skin and fat, he struck a hard mass behind the symphysis, which he thought to be the stone surrounded by the vesical walls. He cut down upon it, but opened the peritoneal cavity instead of the bladder. The mass was then seen to be a malignant tumor. The peritoneal wound was closed with a continuous suture and ultimately healed by first intention. The specimen showed that the supposed stone was really a calcareous deposit upon a portion of the tumor. The peritonæum was seen to be drawn down upon the pubes in a remarkable manner, which explained its perforation during the operation. The vesical cavity was greatly reduced in size.

Dr. Keyes said that epithelial cancers might form primarily on any portion of the inner surface of the viscus.

Dr. Stein remarked that primary scirrhus in the bladder was of the rarest occurrence, although other forms of malignant tumors were more frequent. The suprapubic method seemed to be best for tumors.

Dr. Bryson mentioned a case of vesical tumor which to all appearances, clinically and histologically, had originated in the seminal vesicles, although this origin was extremely rare. There were many soft tumors of the bladder which could not be recognized by the touch, and in these cases suprapubic cystotomy was very useful, but the speaker still regarded perineal section as one of the least dangerous of operations on the bladder.

Dr. Cabot said that the cystoscope sometimes led one to believe in the existence of tumors of the bladder which were not present. Operations had been performed for removal of tumors that could not be found upon opening the bladder.

Dr. Bangs confirmed the remarks of the previous speaker and said that the use of the cystoscope had not been satisfactory to him. It sometimes would also fail to show tumors which really existed.

**Chronic Cystitis of the Neck with the Formation of Hard, Fibrous Rings at the Site of the Sphincter Vesicæ.**—Dr. Bryson reported three cases as follows: *Case I.*—A Bohemian, aged thirty-six, complained of frequency of micturition and constant pain or distress in the prostatic urethra. He was a druggist, and believed that sodium bicarbonate somewhat relieved his symptoms, while all potassium salts increased them. He had had gonorrhœa seven years before, which had got well slowly and been followed by prostatitis and by left-sided epididymitis. The prostate, felt through the rectum, showed perceptible thickening of its posterior border, which gradually faded away to the normal as the anterior half was reached. This was even, smooth, and symmetrical. A blunt sound caused such intense pain when in the prostatic sinus that it had to be withdrawn. A ten-per-cent. injection of cocaine gave such relief that the patient thought he was cured. The blunt (No. 32) sound would then enter the prostate but not the bladder. A Thompson's stone-searcher entered the bladder, but found nothing. No improvement followed hygienic treatment and the use of injections of argentic nitrate. An exploratory median perineal urethrotomy was done, but the little finger could not be passed into the bladder, because it was arrested at the sphincter by what felt like a hard, fibrous ring apparently about an eighth of an inch thick. The patient could not support a small drainage-tube on account of pain, although well narcotized, and the wound was allowed to heal. The patient rapidly became better, left for the South, and wrote afterward that he was married to the young lady who had waited for him during the seven years of his suffering.

*Case II.*—A man, aged twenty-five, had had severe protracted gonorrhœa four years previously. A feeling of dull pain in the deep urethra, which never left him, was increased by the use of malt liquors. He attributed his suffering to the use of an electrode in the prostatic part of the urethra. As in the first case, a blunt sound (No. 32 Fr.) could not be made to enter the prostate without the previous use of cocaine. A smaller Bigelow aspirating tube (No. 14 A.) would pass through with a jolt, but only to the shoulder. No stone was found in the bladder. Treatment had produced no effect; he had only got relief from cocaine.

*Case III* was that of a man of forty-seven years who had had gonorrhœa three years and a half before, which had not been severe, but persistent. Cystitis of the neck supervened. A small stone-searcher detected at least two calculi in the bladder, which were evidently secondary to the cystitis. The vesical neck would not permit of the passage of either the cystoscope or an average-sized evacuating-tube. Two phosphatic calculi were removed by median perineal cystotomy. On passing the finger through the prostatic sinus, it came upon a hard, unyielding ring about the region of the sphincter. Another surgeon present verified the density and resistance of the ring, which, when being cut, resembled stricture-tissue. The patient made a rapid recovery from the operation, but the coarctation soon returned, and narrowed to the same extent as before the operation. It was probable that lateral cystotomy would have given far better results in this case.

Dr. Keyes said that these rings were evident to every man who passed his finger into the organ. He believed that the lateral perineal operation was preferable in such cases so as to cut the rings.

Dr. Bangs had often wondered what the cause of these rings was. He thought they were largely due to prolonged and exaggerated functional contraction at the point of their occurrence.

Dr. Stein questioned the pathological character of coarctations in that region. He had often regarded them as normal.

Dr. Bryson thought that the objection to lateral perineal section on the ground that it would close the seminal ducts was groundless. He thought it difficult to close these ducts by this operation, because, although the duct might be cut across, yet the constantly flowing secretion which oozed from the orifice would keep it continually open. He believed that these rings were of the nature of stricturing bands.

## NEW YORK CLINICAL SOCIETY.

*Meeting of April 26, 1889.*

The President, Dr. L. Bolton Bangs, in the Chair.

**An Ordinary Case of Nasal Catarrh.**—Dr. Beverley Robinson presented a patient who had recently come to his office for the relief of nasal catarrh, having been sent to him by a man living in Canada who had formerly been a patient of his. He had found that the trouble was due to hypertrophy of the pituitary membrane. The case presented nothing particularly interesting, and was in every way an ordinary case, and, so far as the nasal trouble was concerned, he had brought the patient before the meeting only because the paper of the evening was to be devoted to nasal catarrh. The case was also of interest on account of a peculiar nervous disorder which the patient had suffered from ten or twelve years before. This had been some sort of tetanic affection which had affected the lateral and anterior regions of the neck, drawing the head down and to one side. It had seemed to depend for its cause on long and close attention to business, by which he had become badly tired and run down. Dr. DaCosta, of Philadelphia, and others whom he had consulted, had told him to rest from his labors and avoid medicines. From that time to the present the tetanic condition had slowly improved, and was now nearly gone. For a number of years back he had been subject to nasal catarrhs which at first had yielded readily to ordinary treatment, sprays, etc., but eight weeks ago the usual treatment given by the physician residing in his town had failed to relieve, and instead had made the condition worse. Cocaine had been tried; it had given a temporary relief followed by a still more marked congestion, representing as it undoubtedly did a secondary paralysis of the vessels of the pituitary membrane covering the turbinated bodies. The nasal condition had at times become so much worse that the man had walked the floor at night, not knowing what to do to get relief. That there was an efficient means of treating such conditions by acids and the galvano-cautery was of course known to all. He had brought the patient to show what occurred in many of those cases of hypertrophic rhinitis where douches and sprays had been long kept up. Often there was a congenital narrowness in the nasal passages, and, after catarrh had become established, such cases were especially troublesome. The case also illustrated the positive harm done by cocaine. He would be glad to hear opinions as to the nature of the nervous malady from which the patient had formerly suffered so much and of which some traces still remained. At times the patient was compelled to breathe through his mouth, and this was apt to bring on an attack of the muscular spasms. In the last few weeks he had been at times unable to breathe through his nose, and the mouth-breathing had produced spasms of considerable violence. Finally he had lost many of his teeth and bitten into his cheeks owing to the intensity of these attacks. This condition had lasted for many years. There was no paralysis in the muscles about the face or neck.

Dr. W. B. James instanced the case of a girl who suffered from a curious paralysis of the right palato-pharyngeus muscle and of the right vocal cord, and marked hypertrophy of the right lower turbinated body. This condition had lasted for years, and had been accompanied by nasal catarrh and impairment of the voice. The speaker knew of no necessary connection between the nasal and vocal affections in this case, but thought their occurrence together significant.

Dr. Robinson replied that he did not think this case analogous to the one he had presented. He had not meant that the breathing through the mouth specifically produced the spasms; the latter were accessory symptoms of the general condition which the mouth-breathing made worse enough to bring into activity. He had become convinced that the trouble behind the spasmodic symptoms was a meningitis of the upper portion of the spinal cord, and had instructed the patient to apply dry cups over this region, and to take internally bromo-caffeine, hoping thus to relieve the congestion of the cord. He was aware that by freeing the nasal passages of obstructions we sometimes relieved patients of obscure disorders of different sorts, remote and near, especially cerebral and gastric disorders. Still he had no idea that the nose and its condition was the only factor in the case he had presented.

Dr. W. H. Katzenbach had been interested in the remarks in reference to the local use of cocaine. He could say from personal experience that constant applications of the drug resulted in a paretic condition of the parts, necessitating a more and more frequent use of the drug to get an equal effect.

Dr. D. B. Delavan thought the case presented by Dr. Robinson both interesting and unusual. He had tried in vain to recall a similar one. A case had recently been reported of choreic motions of the soft palate occurring in a girl of nervous temperament, in which the palate rose and fell with a clicking sound upward of a hundred and twenty times in a minute. These movements had entirely ceased after two hypertrophied turbinated bodies had been removed—one from each side. Although some time afterward the girl received a severe nervous shock, there had been no return of the palatal affection. There had evidently been some connection between the turbinated hypertrophy and the palatal spasm. As was well known, the reflexes of the nose, as it was convenient to call them, might be very severe and their manifestation either near or remote. Of cocaine he would say that he often heard from intelligent patients of distressing symptoms which had been added to their troubles by the use of this drug for the supposed relief of nasal irritations. He thought a supply of the drug should never, under ordinary circumstances, be given to a patient for him to use at his own discretion.

Dr. W. H. Flint said, in regard to the reflex phenomena due to nasal troubles, that he had recently met with the severest case of this sort which had ever come to his notice. The patient had had hypertrophy of the inferior turbinated bones. For a period of two weeks in two successive years, at two o'clock every night, this patient had had a violent spasmodic cough lasting for several hours. After the hypertrophied condition in the nose had been removed by the galvano-cautery there had been no return of the coughing.

**The Treatment of Ordinary Nasal Catarrh.**—Dr. Robinson read a paper with this title. (See p. 650.)

Dr. J. H. Emerson expressed his approval of Dr. Robinson's manner of using the galvano-cautery.

Dr. R. Abbe spoke in praise of the curative action of the preparation known as Carl Seiler's formula. He had had no experience with any agent by which an attack of rhinitis could be cut short so quickly as by this, and the irritation was at once replaced by a sense of comfort. In cases of painful acute coryza a mixture of two grains of cocaine and a drachm of boric acid seemed to have at once a soothing and an antiseptic effect, and was free from any danger connected with the formation of a cocaine habit, as where the pure drug was used.

Dr. G. A. Spalding asked whether, in Dr. Robinson's opinion, the snuffing up of powders or of fluids into the nose was likely to cause ear troubles.

Dr. Delavan thought the treatment of nasal catarrh a very important matter. He took issue with the statement that practically every one had it, and that it was not important, after all, to attempt to treat it specifically. While he would admit that some cases were not to be relieved by sprays, he thought that another class of patients having nasal catarrh were greatly relieved by them. It seemed improbable to him that all the statements made by different competent observers in regard to cures resulting from such local applications should have no basis in fact, although it might be admitted that they were fewer in number than was commonly supposed. Mild cases were commonly relieved without doubt.

He agreed with Dr. Robinson in his ideas about the means of making local applications and of doing other work in the nasal cavities. With regard to the use of oily substances, and particularly of vaseline, vaseline was very useful, but it was to be remembered that few drugs would dissolve in it. It was a bad excipient, and, moreover, it was not well absorbed. Its value was as an inert and protective substance, which would preserve the moisture of the mucous membrane and prevent it from being irritated by particles of dust, etc. But its value was limited to that of a protective. He had used with great satisfaction the petroleum preparation known as liquid albolene, sold by McKesson & Robbins.

With regard to acids he would say that, while he had a certain amount of respect for the value of chromic acid, he considered it inferior to the galvano-cautery. He had in some instances used each at different times on the same patient, where the patient was himself a physician or a person of intelligence, and the galvano-cautery had always been preferred. Chromic acid was followed by more reaction, gave more pain at the time, and had no advantages of any sort to compensate for these disadvantages. The argument that the action of chromic acid was chemically self-limited was absurd when we considered that limitation of the action of the galvano-cautery was under the absolute control of the operator. There was no doubt that of late operations had been very much overdone and improperly performed for pathological nasal conditions. Patients were constantly applying at clinics in this city for the repair of injuries and damages sustained as a result of operations attempted for the improvement of their nasal passages, and many of them had come under his own notice. He had recently seen a patient both of whose inferior turbinated bodies had become adherent to the wall of the nasal chamber through their whole extent—a condition due to the mistaken or careless use of the galvano-cautery by some unwise operator.

With regard to the complaints so often heard about the slow healing and tardy recovery following nasal operations, it was to be borne in mind that there was no local peculiarity of tissue or other necessary cause for such delay in the healing process, and that a neglect of surgical principles in the treatment of the wound, and especially in keeping it aseptic, was usually to blame. It was indispensable that, after a nasal operation, the patient should be kept under the same conditions recognized as essential to success after other serious operations in surgery.

In undertaking operations on the nasal septum the speaker thought it necessary that a physician should be a competent surgeon, and that no one instrument or appliance could be looked to for the cure of a given deformity in different patients. So, in patients coming for the relief of septal malformation, the deformity varied widely in position and extent, and no one instrument was made which was adapted to every exigency that might arise in operations of this sort. The saw did best as an all-around instrument, but, where the deformity was situated high up and far back, a resection would be the only means of getting a satisfactory result; neither trephine nor gouge would do the work needed. The trephine he regarded as a beautiful little instrument, and had great respect for its value, but was compelled to recognize its disadvantages. It left behind a circular cut which lacked smoothness. Then, when starting to make an incision, it was always easy to penetrate the soft or cartilaginous tissues first met with, but behind these might be encountered bone as hard as ivory, which would give the operator much trouble. Ether was needed in a large number of these nasal operations. Neither saw nor trephine filled every indication, and he trusted we were on the eve of having some new instrument which should be even in action, efficient, rapid, and smooth, and also adapted to the hand of the non-expert operator. He had heard the disadvantages of the saw called attention to before. It was significant that, while this instrument had been so much used in France for years past, in Germany chisels and gouges were depended on almost exclusively.

As to the value of local treatment of catarrhal conditions, he did not take so hopeless a view of it as Dr. Robinson did. Operations within the nose were being overdone, as he had already said, and this, together with carelessness in after-treatment, was making them undeservedly feared. It must never be lost sight of that these were operations done very near the sensorium, done in bone too (and that supplied by the sensitive fifth nerve), and sometimes followed by severe shock. After such an operation the patient needed to be put to bed, given iron and tonics, and kept for a considerable time under the eye of the operator, instead of being left to carry out instructions himself with no one to enforce them.

Dr. W. H. Flint made some remarks in regard to the nasal douche. It was said in some quarters that it was never to be used; in others that it was always worthy of trial. He thought himself that a middle course was the true one in this matter, as it was in so many other things. He had had to do with many people troubled with nasal catarrh, and among them himself. These patients frequently asked their physician what they were to do in order to free themselves of the accumulations that formed in their nasal passages. He thought it safe and wise to tell them to use a douche occasionally for this purpose, employing a stream of salt water from a suspended bag or a syringe. The only danger was that in case the nostrils were occluded and a stream was forced in on one side some of the water might enter the Eustachian tube and give rise to irritation or inflammation in the middle ear. He had used the douche once each week for the past thirteen years to remove the accumulations from within and the dust of the streets, and had never experienced anything but relief. He knew many people who had used the douche for a long time without accident or drawback.

Dr. Robinson replied to Dr. Spaulding's question that he had frequently known painful sensations in the ears to follow the snuffing up of liquids, in some persons, but rarely suppurative otitis media. That which was most important among symptoms in those who had obstinate nasal catarrh was some trouble in the eyes or ears, loss of smell, and other possible extensions or reflex troubles, not the hawking and spitting. It was necessary that we should realize how large a class of people there was who were running every few days to the office of some specialist during periods covering weeks or months to have their nasal passages sprayed out, and who, if they were asked whether the treatment was doing them any good, would necessarily answer in the negative. These were commonly people who habitually over-ate, exposed themselves to draughts or wet, clothed themselves carelessly, and paid little attention to the regular action of their bowels. Quite commonly only twenty-four hours of a constipated habit was needed to bring on a nasal catarrh which would run for days. It was very significant how a blister applied over the liver to bring up the activity of the portal circulation relieved a catarrh in some persons, just as it was familiarly known to do in certain cases of epistaxis. We must regard the body differently from a mosaic table out of which one could pick up a single piece and do with it this way or that. He must still hold to the general truth of the statement that he had made, to the effect that, as a whole, people suffered more harm from specialists than they received benefit. Taking them as a multitude, they would be better off without the treatment so given them, directed to different or perhaps many successive regions of their bodies. This principle was the more in need of recognition when it was considered that the great majority of patients who were to receive advice must take it from the general practitioner, and that ordinary catarrh was the malady from which they wished to be relieved. Nasal operations were needed, of course, in certain cases, but, like amputation, and other capital operations, in proportion to the whole number of people to be treated they were rare.

## Book Notices.

*On the Preventive Treatment of Calculous Disease* and the Use of Solvent Remedies. By Sir Henry Thompson, F. R. C. S., M. B. Lond., etc. Third Edition. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. 87. [Price, $1.]

Under this title the author gives in reality his method of treatment in what has been termed the "uric-acid diathesis," of which stone in the bladder is but one of the rarer accidents, and perhaps the one least to be dreaded when it does occur. No definite stand is taken as regards the pathology of this affection, and in consequence the method of treatment, however excellent in practice, is largely empirical, no attempt being made to distinguish between the various possible causes of lithæmia which scientific investigations have already demonstrated. In particular, the fact of the peculiar liability of tubercular and strumous subjects, not only to deposit uric acid and urates from the urine, but also to excrete it in excess, has been ignored, although the form of treatment laid down by the author would be detrimental rather than beneficial in this class of cases.

A brief history of the various methods attempted for the treatment of stone by solvents and of their non-success closes this little book, which has been enlarged and entirely rewritten since its first edition. Its popularity is vouched for by the facts that not only has it reached its third edition in its present form, but that it has been published many times in other works by this author.

*Clinical Lectures on Diseases of the Urinary Organs.* (Delivered at University College Hospital.) By Sir Henry Thompson, Surgeon Extraordinary to His Majesty the King of the Belgians, etc. Eighth Edition. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. xiv–470. [Price, $3.50.]

The author of this work is so well known as an authority in genito-urinary surgery, and various editions of his published clinical lectures have already been so favorably noticed in our columns, that there is little left for the reviewer of this eighth edition to say in commendation. The seventh edition appeared in England in 1883. The one now before us is much enlarged, and has been almost entirely rewritten. The surgery of the bladder is brought down to date. The matter of the book is contained in thirty-two lectures, and illustrated by a hundred and twenty-one woodcuts. The last edition had, we believe, only twenty-six lectures and eighty-four woodcuts. Of special interest will be found the eminent author's statement of his personal experience in nine hundred and eleven operations for stone as found on pages 195 *et seq.* This is an eminently practical book upon a very important branch of surgery, and to be commended to all who are interested in the subject.

*The Operations of Surgery.* A Systematic Hand-book for Practitioners, Students, and Hospital Surgeons. By W. H. A. Jacobson, F. R. C. S., Assistant Surgeon, Guy's Hospital, etc. With One Hundred and Ninety-nine Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. 14–17 to 1006. [Price, $5.]

This work contrasts very favorably with most of those published under the same or some similar title. Sufficient space is devoted to every region of the body to make clear the principal operations which may be performed upon it, while at the same time the descriptions are narrowed down within practical limits. An attempt to compile a work which would contain every possible operation would result in a mass so great as to render it of little value; so it becomes a necessity for a writer on this subject to select those operations which, in his opinion, seem to be preferable. This Mr. Jacobson has done very judiciously. Beginning with the fingers, passing up to the head and neck, and thence in a similar manner to the other portions of the body, each region is considered separately, the important anatomical points are clearly set forth, the conditions indicating or contra-indicating operative interference are given, the details of the operations themselves are brought forward prominently, and frequently the after-treatment is considered. Herein is one of the best points of the book. Operative surgery is not merely operating; the conduct of the after-treatment often furnishes an opportunity for a surgeon to exhibit his skill, sometimes to a greater degree than the operation itself; hence a work designed as a guide to the surgeon in the performance of operations should not stop short until it has carried him through the special difficulties which may attend the after-treatment.

It is pleasant to note so large a number of references to the work of surgeons on this side of the Atlantic; they are quite prominent, and show that the labors of some of our American surgeons are not overlooked.

The book is well got up. The type is of good size and the paper good. The cuts are fair, many of them new, some excellent. It makes a very welcome addition to a physician's library.

*Obstetric Aphorisms* for the Use of Students commencing Midwifery Practice. By Joseph Griffiths Swayne, M. D., Consulting Physician to the Bristol General Hospital, etc. Ninth Edition. Philadelphia: P. Blakiston, Son, & Co., 1888. Pp. vii–159. [Price, $1.25.]

This might properly be considered a condensed treatise upon obstetrics, containing abundant references to the works of the best modern writers, especially the standard English writers of a generation ago. The author's comprehension of the mechanical portion of obstetrics and his advice concerning its management are in the main judicious, but much more might have been said by him with advantage concerning the treatment during the puerperium. The old notions in which the author was educated cling more or less tenaciously to him; in other words, judging from his book, we should say that he did not fully appreciate the importance of the antiseptic principle in its application to midwifery. Not that this subject has been ignored by him, but that it has not received the emphasis which, in our judgment, it merits. It is all-important in obstetrics, as in everything else, that one should start right, and students can not be taught too soon nor too earnestly that success will be gauged largely by the scrupulousness with which antisepsis, which is mainly cleanliness, is carried out in the lying-in room. Probably the mechanics of obstetrics is no better understood now than it was a generation ago, but the mortality statistics are everywhere more favorable.

*The Skin Diseases of Infancy and Early Life.* By C. M. Campbell, M. D., C. M., Edin., etc. London: Baillière, Tindall, and Cox, 1889. Pp. xii–202.

This book has given us a feeling of amazement that such flimsy and juvenile matter could be written in Great Britain in the present enlightened age of dermatology. The author shows no familiarity with the subject in his clinical descriptions, which are tame and vapid; he is even less happy in the matter of diagnosis; and, as to his therapeutics, the least said the better. If, as the author seems to hope, the book is bought by the general practitioner with the idea that it will aid him in diagnosticating and treating "off-hand some skin affections in the household," the trusting purchaser will certainly be the victim of misplaced confidence.

*What to do in Cases of Accidents and Emergencies:* describing the Symptoms in each Case and how to treat them on the Moment. With a List of the Principal Poisons, which, if taken, require Prompt Treatment; their Remedies and Antidotes. Designed for Family and General Use. By Joseph B. Lawrence, Medical and Surgical Nurse. New York: J. H. Vail & Co., 1888. Pp. 9–11 to 139.

> "A little learning is a dangerous thing,
> Drink deep, or taste not the Pierian spring."

It is not often that the adage is exemplified more truly than by this book. The disappointment experienced in reading it is intense. Instead of giving practical hints based upon the experience of a bright and intelligent nurse, much space is devoted to attempts to describe in language easily understood by the unlearned the pathology, symptomatology, and treatment of certain lesions. But the author has passed beyond the bounds of his knowledge and has recorded mistakes, some of them superbly ridiculous, on nearly every page. We hoped to be able to praise this work, but can not conscientiously avoid censuring it.

### BOOKS AND PAMPHLETS RECEIVED.

Hand-book of the Diagnosis and Treatment of Skin Diseases. By Arthur Van Harlingen, M. D., Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine. Second Edition, enlarged and revised. With Eight Full-page Plates and other Illustrations. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. xv–17 to 410. [Price, $2.50.]

Examination of Water for Sanitary and Technical Purposes. By Henry Leffmann, M. D., Ph. D., Professor of Chemistry in the Woman's Medical College of Pennsylvania, etc., and William Beam, M. A., Demonstrator of Chemistry in the Pennsylvania College of Dental Surgery. Philadelphia: P. Blakiston, Son, & Co., 1889. Pp. vi–9 to 106.

Hog Cholera: Its History, Nature, and Treatment, as determined by the Inquiries and Investigations of the Bureau of Animal Industry. Washington: Government Printing-office, 1889. [United States Department of Agriculture.]

Sixteenth Annual Report of the Secretary of the State Board of Health of the State of Michigan, for the Fiscal Year ending June 30, 1888.

Rest in the Treatment of Chronic Joint Disease. By John Ridlon, A. M., M. D. [Reprinted from the "Medical Record."]

The Efficacy of Filters and Other Means employed to purify Drinking-water. A Bacteriological Study. By Chartes G. Currier, M. D., of New York. [Reprinted from the "Medical News."]

New York Cancer Hospital. Fourth Annual Report. For the Year 1888.

Cornell University, College of Agriculture, Bulletin of the Agricultural Experiment Station. V. April, 1889. I. On the Production of Lean Meat in Mature Animals. II. Does heating Milk affect the Quality or Quantity of Butter?

Semi-centennial Anniversary of the Albany Medical College. March 21, 1889. Historical Address by David Murray, LL. D.

Sull' influenza del riscaldamento e raffreddamento del corpo in alcuni processi febbrili. Indagini sperimentali del Dott. Alberto Rovighi. [Estratto dalla "Rassegna di scienze mediche."]

Las ambulancías civiles, sistema existente en Nueva York y su posibile implantación en Santiago. Por el Dr. Luis Asta-Buruaga.

Su di un caso di embolia cerebrale. Per il dott. Umberto Dieci. [Estratto dalla "Rassegna di scienze mediche."]

La mortalità per tifo e pneumonite nell' ospedale di Modena, dal 1850 al 1889. Studio statistico del Dottor Alberto Rovighi.

Atlas of Venereal and Skin Diseases. Comprising Illustrations and Selections from the Plates of Professor M. Kaposi, of Vienna; Dr. J. Hutchinson, of London; Professor I. Neumann, of Vienna; Professors A. Fournier and A. Hardy, and Drs. Ricord, Cullerier, Besnier, and Vidal, of Paris; Professor Leloir, of Lille; Dr. P. A. Morrow, of New York; Dr. E. L. Keyes, of New York; Dr. Fessenden N. Otis, of New York; Dr. J. Nevins Hyde, of Chicago; Dr. Henry G. Piffard, of New York; and others. With Original Text by Prince A. Morrow, A. M., M. D., etc. Fasciculus XIII. New York: William Wood & Co., 1889.

Diphtheria: its Nature and Treatment. By C. E. Billington, M. D., and Intubation in Croup and other Acute and Chronic Forms of Stenosis of the Larynx. By Joseph O'Dwyer, M. D. New York: William Wood & Co., 1889. Pp. iv–326. [Price, $2.50.]

Immunity through Leucomaines. By Eusebio Güell Baciyalupi. Translated from the Second French Edition by R. F. Rafael, M. D. New York: J. H. Vail & Co., 1889. Pp. x–3 to 170.

A Treatise on Hernia. The Radical Cure by the Use of the Buried Antiseptic Animal Suture. By Henry O. Marcy, A. M., M. D., LL. D., etc. Detroit: George S. Davis, 1889. Pp. vii–251. ["The Physicians' Leisure Library."]

Extra-uterine Pregnancy. A Discussion. [Reprinted from the "Transactions of the American Association of Obstetricians and Gynæcologists."] With an Appendix reviewing Mr. Lawson Tait's Ectopic Gestation and Pelvic Hæmatocele. Philadelphia: W. J. Dornan, 1889.

Proceedings of the New York Pathological Society. For the Year 1888.

Typhoid Fever and Water Supply in Omaha. By W. F. Milroy, M. D. [Reprinted from the "Omaha Clinic."]

The Sixty-fifth Annual Report of the Officers of the Retreat for the Insane at Hartford, Conn. April, 1889.

Kocher's Method of Reducing Sub-coracoid Dislocations of the Humerus. By Charles A. Powers, M. D. [Reprinted from the "Medical Record."]

A Guide to Therapeutics and Materia Medica. By Robert Farquharson, M. P., M. D. Edin., F. R. C. P. Lond., LL.D. Aber., late Lecturer on Materia Medica at St. Mary's Hospital Medical School, etc. Fourth American from the Fourth English Edition. Enlarged so as to include all Preparations Officinal in the U. S. Pharmacopœia, by Frank Woodbury, A. M., M. D., Professor of Materia Medica, Therapeutics, and of Clinical Medicine in the Medico-chirurgical College of Philadelphia. Philadelphia: Lea Brothers & Co., 1889. Pp. vi–25 to 598. [Price, $2.50.]

Cyclopædia of the Diseases of Children, Medical and Surgical. The Articles written especially for the Work by American, British, and Canadian Authors. Edited by John M. Keating, M. D. Vol. I. Illustrated. Philadelphia: J. B. Lippincott Company, 1889. Pp. xiii–992. [Price, $5.]

Elements of Histology. By E. Klein, M. D., F. R. S., Lecturer on General Anatomy and Physiology in the Medical School of St. Bartholomew's Hospital, London. Illustrated with 194 Engravings. New and enlarged Edition. Philadelphia: Lea Brothers & Co., 1889. Pp. xii–368. [Price, $1.75.]

Electricity and the Methods of its Employment in removing Superfluous Hair and other Facial Blemishes. By Plym. S. Hayes, A. M., M. D., etc. Chicago: W. T. Keener, 1889. Pp. vi–128.

Clinical Observations on the Action of Sulfonal in Insanity. By W. Mabon, M. D., Utica, N. Y. [Reprinted from the "Journal of Insanity."]

The Essentials of Physical Diagnosis of the Chest and Abdomen. By J. Wallace Anderson, M. D., Physician to the Royal Infirmary, Glasgow, and Lecturer on Medicine, Royal Infirmary Medical School, etc. New York: Macmillan & Co., 1889. Pp. viii–156. [Price, 75 cents.]

Annual Address of the President of the Philadelphia Obstetrical Society. By Professor Theophilus Parvin, M. D. [Reprinted from the "Annals of Gynæcology."]

Crime: its Physiology and Pathogenesis. How far can Medical Men aid in its Prevention? By John Morris, M. D., of Baltimore. (President's Address delivered before the Medical and Chirurgical Faculty at its Ninety-first Annual Meeting, April 23, 1889.) [Reprinted from the "Maryland Medical Journal."]

Change in the Color of the Hair, from the White Hair of Old Age to Black, produced by Jaborandi. By D. W. Prentiss, A. M., M. D., Washington D. C. [Reprinted from the "Therapeutic Gazette."]

A Report of Five Hundred Consecutive Cases of Labor in Private Practice in the District of Columbia, between the Years 1864 and 1888. By D. W. Prentiss, A. M., M. D. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Lectures on Bright's Disease. By Robert Saundby, M. D. Edin., Fellow of the Royal College of Physicians, London, etc. With Fifty Illustrations. New York: E. B. Treat, 1889. Pp. vi–290. [Price, $2.75.]

The Proceedings of the Sixth Annual Meeting of the Ohio State Sanitary Association, held at Canton, November 14 and 15, 1888. [Reprinted from the "Annals of Hygiene."]

Is More Conservatism Desirable in the Treatment of the Joint Diseases of Children? By A. B. Judson, M. D. [Reprinted from the "Medical Record."]

The Heating and Ventilation of the Mansfield Schools and Churches. By R. Harvey Reed, M. D., Mansfield, Ohio. [Reprinted from the "Journal of the American Medical Association."]

"Eye-strain." Its Bearings upon the Duration of Human Life. By Ambrose L. Ranney, A. M., M. D., etc. [Reprinted from the "Medical Examiner."]

Observations upon the Osteology of the North American Anseres. By Dr. R. W. Shufeldt, U. S. A. [Reprinted from the "Proceedings, United States National Museum."]

Du rôle de l'hérédité dans l'alcoolisme. Par Paul Sollier, Interne des Hôpitaux de Paris. Avec une préface de M. le Dr. Bourneville, Médecin de l'Hospice de Bicétre. Paris: Lecrosnier et Babé, 1889. Pp. xiii–214. [Prix, 2 fr. 50.] [Publications du "Progrès médical."]

Un cas de laryngite tuberculeuse primitive pseudo-polypeuse.—Structure papillomateuse des tumeurs.—Examen bactériologique affirmatif des crachats.—Inoculation à un cobaye de fragments de tumeur intralaryngienne.—Tuberculisation du cobaye. Par le Dr. Gouguenheim et P. Tissier. [Extrait à l' "Annales des maladies de l'oreille, du larynx, du nez et du pharynx."]

The Animal Suture in Intra-vaginal Plastic Surgery. By Thomas A. Ashby, M. D., Baltimore. [Reprinted from the "Maryland Medical Journal."]

A New Principle in the Surgery of the Bladder. By Otis K. Newell, M. D. [Reprinted from the "Boston Medical and Surgical Journal."]

The Diagnosis of Tumors of the Bladder and Stone with the Cystoscope. By Otis K. Newell, M. D. [Reprinted from the "Boston Medical and Surgical Journal."]

The Prevention and Treatment of Crural Adduction. By Henry Ling Taylor, M. D., of New York City. [Reprinted from the "Medical News."]

The Therapeutic Value of Systematic Passive Respiratory Movements. By Henry Ling Taylor, M. D. [Reprinted from the "Medical Record."]

Second Biennial Report of the North Carolina Board of Health to the General Assembly of North Carolina. Session of 1889.

Sulla pirocatechinuria. Annotazioni del dottor Cesare Magni, gia primo assistente di clinica medica a Pavia ed ora capo-medico direttore dell' ospitale civico di Mantora. Milano: Fratelli Rechiedei, 1889.

Tre individui di una stessa famiglia colpiti da pirocatechinúria, del professor Francesco Orsi. [Estratto della "Gazzetta Medica Lombarda."]

# Miscellany.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending June 1st:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough. |
| New York, N. Y. | June 1. | 1,567,812 | 629 | .. | .. | .. | .. | .. | .. | 2 | 28 | 30 | 5 | 15 |
| Brooklyn, N. Y. | June 1. | 821,525 | 335 | .. | .. | .. | .. | .. | .. | 1 | 7 | 26 | 7 | 7 |
| Baltimore, Md. | June 1. | 500,343 | 136 | .. | .. | .. | .. | .. | .. | 2 | .. | 3 | .. | 1 |
| Cincinnati, Ohio | June 1. | 325,000 | 106 | .. | .. | .. | .. | .. | .. | 1 | .. | 5 | 2 | 1 |
| New Orleans, La. | May 25. | 254,000 | 169 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | 2 | .. |
| Cleveland, Ohio | May 4. | 235,000 | 67 | .. | .. | .. | .. | .. | .. | 5 | 3 | .. | .. | .. |
| Cleveland, Ohio | May 11. | 235,000 | 75 | .. | .. | .. | .. | .. | .. | 1 | .. | 3 | .. | .. |
| Detroit, Mich. | May 25. | 230,000 | 50 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. |
| Washington, D. C. | June 1. | 225,000 | 84 | .. | .. | .. | .. | .. | .. | 3 | 1 | 1 | .. | 1 |
| Milwaukee, Wis. | June 1. | 210,500 | 50 | .. | .. | .. | .. | .. | .. | .. | 3 | 1 | .. | .. |
| Rochester, N. Y. | May 25. | 130,000 | 34 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 2 |
| Providence, R. I. | June 1. | 127,000 | 41 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. |
| Richmond, Va. | June 1. | 100,000 | 24 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Denver, Col. | May 31. | 100,000 | 30 | .. | .. | 1 | .. | .. | .. | .. | .. | 4 | .. | .. |
| Toledo, Ohio | May 31. | 83,500 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Nashville, Tenn. | June 1. | 65,153 | 14 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. |
| Fall River, Mass. | June 1. | 65,000 | 22 | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. |
| Lynn, Mass. | June 1. | 50,000 | 14 | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. |
| Portland, Me. | June 1. | 42,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Galveston, Texas | May 17. | 40,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Davenport, Iowa | June 1. | 33,715 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. |
| Binghamton, N. Y. | June 1. | 30,000 | 7 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. |
| Altoona, Pa. | May 25. | 30,000 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Auburn, N. Y. | June 1. | 26,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Haverhill, Mass. | June 1. | 25,000 | 8 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Newport, R. I. | May 23. | 22,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Newport, R. I. | May 30. | 22,000 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Newton, Mass. | June 1. | 21,553 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. |
| Keokuk, Iowa | June 1. | 16,000 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. |
| Pensacola, Fla. | May 25. | 15,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

## THERAPEUTICAL NOTES.

**The Dose of Male Fern.**—The "British Medical Journal" calls attention to the fact that the dose of liquid extract of male fern given in the British Pharmacopœia, ♏xv to ♏xxx, is much too small. Dr. Bristowe, in his "Theory and Practice of Medicine," gives the dose as ʒ ss. to ʒ ij; the dose in use at Guy's Hospital is said to be ʒ j to ʒ jss.; Professor Gerhardt recommends for *Tænia solium* ʒ ijss. to ʒ iij; for *Tænia mediocanellata*, ʒ iijss. to ʒ iv. In a list of twenty-seven cases treated by Dr. J. O. de Man with even more heroic doses, the largest dose recorded was somewhat above ℥ j, but about ʒ vj seems to be his usual dose for an adult, and from ʒ iij to ℥ ss. for a child of twelve. Although Dr. de Man says that he has observed no unpleasant symptoms follow these large doses, it is not clear that they are entirely free from danger. The "Pharmaceutical Journal and Transactions" for October 14, 1882, is cited as recording a fatal case that occurred in Ceylon: A man took a draught containing ℥ jss. of liquid extract of male fern in two doses of ʒ vj each, at an interval of three or four hours; violent vomiting and purging ensued, and the patient died in a few hours.

**The Use of Rhus Aromaticus in Incontinence of Urine.**—According to a recent number of the "Union médicale," quoting from the "Archives médicales belges," Dr. Burdenich, of Gand, has tried *Rhus aromaticus* in thirty-three cases. He obtained an excellent result in eleven, a satisfactory result in ten, and a result of little importance in the remaining twelve cases. The good effects of the medicine were not felt until the fifth or sixth day, and sometimes not even until the end of the third or fourth week. Dr. Burdenich considers *Rhus aromaticus* to be a powerful tonic analogous to nux vomica. Given in doses of about thirty-eight grains a day, it rendered urination easy and continuous in the case of a man, seventy-nine years old, who had partial paralysis of the bladder without contraction of the urethra or hypertrophy of the prostate. Dr. Numa, who thinks that the drug excites muscular action in the bladder, the uterus, and the lower part of the intestinal canal, gives ten drops of the tincture to children from two to six years old, and fifteen drops twice a day to older children. He thinks that the tonic effects do not persist. Dr. Hamon has succeeded in preventing children from urinating in bed by giving them a dose of from twenty to sixty drops of the tincture at bedtime.

## ANSWERS TO CORRESPONDENTS.

*No. 269.*—We know of no other means of radical cure than by an operation. After that you would probably be accepted in the militia.

*No. 270.*—By means of resistance coils.

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

THE NEW YORK MEDICAL JOURNAL, June 22, 1889.

## Original Communications.

# FURTHER INVESTIGATIONS AS TO THE EXISTENCE OF A CORTICAL MOTOR CENTER FOR THE HUMAN LARYNX.*

By D. BRYSON DELAVAN, M. D.,
PROFESSOR OF LARYNGOLOGY IN THE NEW YORK POLYCLINIC.

At the Eighth International Medical Congress, held in Copenhagen in 1884, the writer presented a paper in which attention was called to the possibility of localizing in the brain the cortical motor center for the human larynx.

In support of the hypothesis that such a center existed, the histories of two cases, one of which was original, were related, and through them clinical evidence was for the first time brought to bear upon the question.

The study of these cases seemed to suggest the possibility of the following conclusions:

1. That there is a cortical center of motion for the human larynx.
2. That this center is in the course of the third branch of the middle cerebral artery.
3. That it is toward the proximal end of this vessel.
4. That it is in the vicinity of the convolution of Broca.

Although by no means sufficient evidence was furnished to prove the above, the subject was one of such unusual scientific interest that, with the intention of calling forth discussion and of inciting others to its more careful investigation, it was thought worthy of presentation. In this respect at least the effort has been successful, for since the appearance of the article several others upon the same topic have been published, and results of considerable value attained.

In the recent work of Gottstein ("Krankheiten des Kehlkopfes," Leipsic, 1888) there is given such an excellent synopsis of the literature of the subject that it appears unnecessary to reproduce it here.

In the case reported by the writer in 1884 it was impossible then to verify the diagnosis. The patient having since died and an autopsy having been made, another instance is now added to the small list of those in which a full history has been obtained, and among which that reported by Garel ("Rev. mens. de laryngologie," May, 1886) is the only one in which, corresponding with a paralysis of the larynx, a cortical lesion has been found. The complete record of the writer's case is as follows:

Case I.—Male, aged sixty, retired merchant, family history excellent, except for rheumatic diathesis. Has always been very strong and healthy, of regular habits, and strictly temperate in the use of alcoholics, but an immoderate tobacco smoker. Since middle life has suffered much from rheumatism, and has rapidly accumulated fat, but gives no history of any other diathesis. Has also suffered from naso-pharyngeal catarrh. Is right-handed. In 1876 had a slight attack, attended with vertigo, partial insensibility, and numbness, but without any distinct paralysis. A year later was again attacked, this time with well-marked hemiplegia. Although complete insensibility was at no time present during the attack, there was intense pain in the back of the head and in the nose on the left side, numbness and impairment of motion of the left arm, side, and leg, almost total inability to swallow, and, finally, a remarkable change in the quality of the voice, which, from having been full, deep, and sonorous, was reduced to a cracked, piping, and uncertain tone, which rendered its use almost impossible. Articulation was also impaired, the patient for months afterward being obliged to pronounce each syllable separately, speaking slowly and with difficulty. There was at no time or to any degree aphasia.

There was distinct ptosis, with paralysis of the left side of the face and tongue. After continuing two or three days, the general symptoms began to subside, beginning with the leg, then the arm, and, last of all, the face, and slow but steady improvement continued for many months in all the above-mentioned conditions except the voice. In this there was little apparent change for some time, but by degrees it became more readily controlled and less discordant, although the high-pitched quality has continued up to the present time, together with the loss of power and inability to force it. In 1882 a laryngoscopical examination showed the existence of complete abductor paralysis of the left vocal band, the position of which was in the median line. The larynx was remarkably easy of demonstration, and the diagnosis was afterward confirmed by Dr. Clinton Wagner. Laryngoscopic examinations made at intervals since 1882—one on February 12, 1885, in consultation with Dr. George M. Lefferts, and the last one in January, 1888—have demonstrated no change in the position of the cord. There was, however, a slight attempt at rotation on the part of the left arytenoid, due evidently to the action of the inter-arytænoideus muscle. Efforts made to determine the electrical "reaction of degeneration" proved unsuccessful. To summarize, in a case of common left hemiplegia, in which pharyngeal and laryngeal paralysis were especially well marked, all of the symptoms disappeared in regular order, except those relating to one set of muscles—namely, the laryngeal abductors of the left side, and these continued paralyzed for a period of ten years.

Death, due to valvular lesion of the heart and pulmonary œdema, occurred April 12, 1888.

An autopsy was made, twenty-four hours after death, by my friend Dr. Frank Ferguson, of the New York Hospital. The brain was examined sixty-two hours after death by Dr. M. Allen Starr, with the following result:

*Arteries.*—Left vertebral artery distended to the diameter of one fourth of an inch and very tortuous, being deflected forward and outward so as to lie upon the outer side of the medulla oblongata behind the olivary body and upon the ninth, tenth, and eleventh nerves at their exit (Fig. 1).

The right vertebral artery was less distended and thickened but very atheromatous, and occupied its normal position, being, however, constricted at its entrance to the basilar.

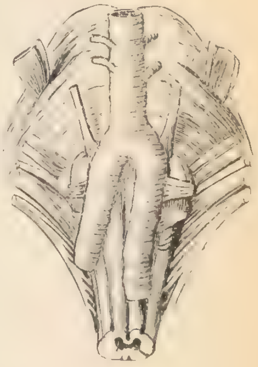

Fig. 1.

The basilar artery, also much wider than normal and intensely atheromatous, had become elongated so that it pursued a curved course, with the convexity toward the right upon the pons.

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* Read before the American Laryngological Association at its tenth annual meeting, September 19, 1888.

In both vertebral and basilar firm, calcified plates could be felt, producing such a rigid condition of these vessels that they could not be compressed by the fingers. At no point in their course, however, could any embolus or thrombus be discovered. The posterior cerebral arteries were also atheromatous, as were all the smaller branches of these larger trunks. The posterior communicating arteries were unusually small and apparently unaffected by the atheroma. Both carotids were equally atheromatous with the basilar, calcified plates being easily felt in their walls. The middle cerebral artery and all its branches over the island of Reil were extremely atheromatous, and this atheroma extended to the finer branches throughout the cortex, and was especially marked in some of the smaller arteries of the anterior perforated space.

The anterior cerebral artery of the right side was normal, as was the anterior communicating. On the left side it was very atheromatous.

*Right Hemisphere.*—The appearance of the pia mater was that of moderate congestion. It was neither œdematous nor opaque excepting at one point, about an eighth by a sixteenth of an inch in extent, over the posterior extremity of the second frontal convolution near to its junction with the ascending frontal convolution, and even here the pia was not adherent.

*Left Hemisphere.*—Pia congested; vessels atheromatous; no opacities; no adhesions. Cortex of the island of Reil and of the convolutions apparently normal in all respects.

Sections made in the frontal direction through the hemispheres from before backward, at intervals of one quarter of an inch, showed a normal condition of the centrum ovale, corpus callosum, and optic thalamus.

In the left hemisphere, at the summit of the internal capsule, in its anterior half and in the corresponding portion of the caudate nucleus, and extending backward, outward, and downward through the entire middle body of the lenticular nucleus, was a cavity lined with connective tissue and containing a small amount of clear fluid, the remains of a very old area of softening. Below and a little outside of this cavity was a small space with smooth walls, in which one of the basilar branches of the middle cerebral artery had lain.

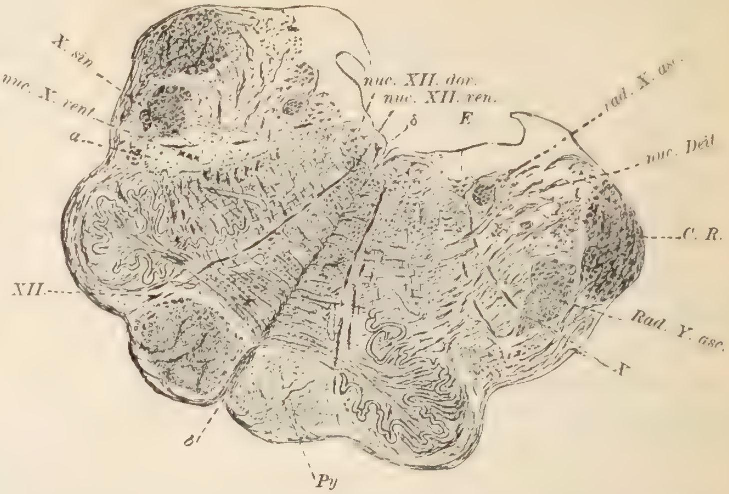

FIG. 3.—Section of the medulla near the upper level of the softened wedge. (The floor of the ventricle is from a higher level than the pyramids, and the right half of the section is higher than the left half.) 6, Decussation of the external arciform fibers at the ventral margin of the rhaphe; *py.*, partially degenerated right pyramid with some of the external arciform fibers running across it to the hilus of the olive; *x*, vagus strands; *rad. v asc.*, ascending trigeminal root; *c. r.*, corpus restiforme; *nuc. Deit.*, direct sensory cerebellar tract of Edinger (fascicular portion of Deiter's nucleus); *rad. x asc.*, ascending vagus root; *e*, common sensory nucleus of ix and x nerves; 8, vertical set of association fibers for the cells of the xii nucleus; *nuc. xii dor.*, dorsal group of cells of the xii nucleus; *nuc. xii vent.*, ventral group of cells of the xii nucleus; *x sin.*, vagus filaments of the left side passing through the softened area *a*; *nuc. x vent.*, site of the motor vagus nucleus; *xii*, hypoglossal filaments.

In the right hemisphere, at a point in the upper portion of the internal capsule in its middle third opposite to the anterior extremity of the optic thalamus, a small area of softening was found. This involved the upper limit of the internal capsule for about a quarter of an inch from before backward, and the upper portion of the outer body of the lenticular nucleus.

Sections through the crura, pons, medulla, and spinal cord presented nothing abnormal to the naked eye.

In the right choroid plexus a fatty tumor five eighths by three eighths by two eighths of an inch was found in the descending horn of the lateral ventricle. In the right crus cerebri, in its middle third, a slight constriction seemed to indicate a descending degeneration in the motor tract.

The following report of the microscopical appearances was made by Dr. Ira Van Giesen, in the Laboratory of the College of Physicians and Surgeons, New York:

Sections of the lower termination of the two central convolutions and posterior one third of the third frontal convolution from both hemispheres show no abnormity in the number or arrangement of the nerve fibers or ganglion cells. Many of the latter are heavily pigmented. A focus of softening about 7 mm. in diameter, in the posterior arm of the right internal capsule, just behind the knee, involving slightly the optic thalamus, has produced a partial degeneration of the right motor tract.

The left side of a segment of the medulla corresponding to the upper three quarters of the olivary bodies contains a wedge-shaped mass of softening (3 by 4 by 5 mm. in diameter) situated in the path of the intramedullary root strands of the vagus nerve. Near its lower level (Fig. 2) the softened mass is trian-

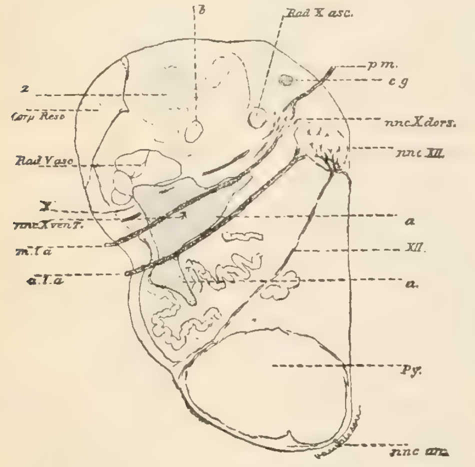

FIG. 2.—Section of the medulla near the lower level of the wedge of softening. *a*, triangular softened area; *nuc. arc.*, nucleus arciformis; *py.*, left pyramid; *xii*, hypoglossal nerve; *nuc. xii*, hypoglossal nucleus; *c. g.*, column of gelatinous substance of Rolando; *rad. x asc.*, ascending root of the vagus (respiratory fasciculus); *corp. rest.*, corpus restiforme; *rad. v asc.*, ascending trigeminus root; *x*, vagus strands; *nuc. x dor.*, sensory vagus nucleus; *nuc. x vent.*, site of the motor vagus nucleus (nucleus ambiguus) destroyed by the softening; *m. l. a.*, median lateral artery; *a. l. a.*, anterior lateral artery supplying the sensory vagus nucleus in conjunction with the posterior median artery, *p. m.*, entering the ventricular floor; * *z*, analogue of the posterior horn and posterior column nuclei.

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* The vessels are represented schematically and are copied from the diagram in Ross's "Diseases of the Nervous System," vol. i, p. 761.

gular in transection. The apex of the triangle (corresponding to the thin edge of the wedge) points toward the dorsal vagus nucleus and is 1½ mm. distant from it. The base (5 mm.) extends from the ascending root of the trigeminus to the olive and is about 1½ mm. distant from the lateral surface of the medulla. The ventral angle passes through the convolutions of the olive into its hilum. The dorsal angle involves a small portion of the ascending root of the trigeminus.

The wedge of softening gradually tapers at the expense of its base as it passes upward, so that in a section at the entrance of the uppermost vagus root bundles (Fig. 3) the ventral angle has retreated from the olive. The dorsal angle lies against the ascending trigeminal root, and the apex, pointing toward the sensory vagus nucleus, is 2 mm. from it. Thus the upper portion of the focus of softening has in section an oval outline instead of the triangular outline which it presents below.

The softened mass is not of recent origin, because it is composed largely of hyperplastic neuroglia. Many of the vagus root strands, the internal arcuate fibers, and some of the vertical fibers of the formatio reticularis, pass through the softened region undamaged. A few of the thickened anterior and median lateral arteries * running parallel to the intramedullary vagus strands also pass through the softened mass. The ventral vagus nucleus—nucleus ambiguus of Clarke—and the recurrent vagus root strands are present on the right side, but are absent on the left side.

Many of the extra-medullary root fasciculi of the left vagus are degenerated. In some places the normal nerve fibers occupy less than one half of the volume of the fascicle (Fig. 4). The right vagus root and the hypoglossal roots of both sides are normal. The spinal accessory nuclei and the first and second cervical segments of the spinal cord are normal.

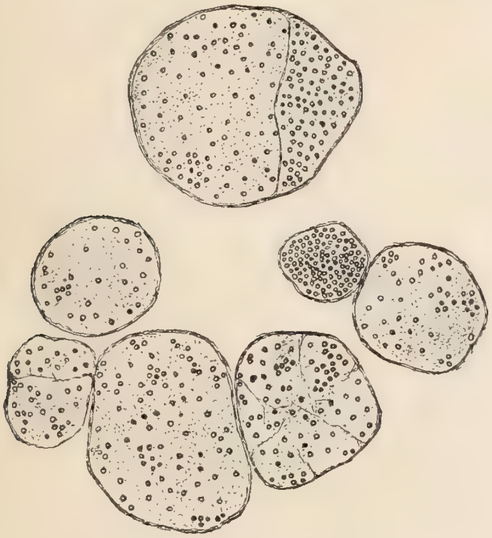

FIG. 4.—Transections of left vagus root-bundles, showing the degenerated areas.

The softening was probably produced by an obliterating endarteritis of the median or anterior lateral arteries (see Fig. 2), which are branches of the diseased left vertebral. No area of secondary degeneration was found in the left ascending trigeminus root above the softened region.

The focus of softening in the medulla, occurring simultaneously with the lesion in the internal capsule of the opposite side, was probably more instrumental in the production of the permanent laryngeal paralysis, by the complete destruction of the ventral or motor vagus nucleus, than by interference with the root strands. This I infer from the fact that so many of the root strands pass through the old softened focus intact. The degenerated areas in the extra-medullary root bundles of the left vagus represent the paths of the motor fibers in them. The left glossopharyngeal filaments, although not directly involved by the lesion, seem to have been in such close proximity to the small upper pointed extremity of the softening that a temporary impairment of their functions ensued when the softening occurred. The trunk of the vagus was not preserved for examination. The results of the microscopical examination prove that the laryngeal symptoms were not due to a cortical lesion. The case is interesting in confirming clinically the motor character of the ventral vagus nucleus.

Thus it would appear that the theory maintained by Gottstein — namely, that paralysis of the larynx of central origin is due to bulbar lesion and not to disease of the cortex—receives from this case direct confirmation, and that the localization of the cortical motor center for the human larynx still remains, so far as the above is concerned, an uncertainty.

[Since the presentation of this paper, the attention of the writer has been attracted to a case singularly parallel with the one herein described, reported by C. Eisenlohe, of Hamburg (" Archiv für Psychiatrie," Berlin, vol. xix, 1888, p. 314), in an elaborate article entitled " Zur Pathologie der centralen Kehlkopflähmungen." The patient was a laborer, aged thirty-three, in whom, attended with severe dysphagia and aphonia, there was found complete left recurrent paralysis, with loss of both motion and sensation. There was also paralysis of the left side of the velum palati. The post-mortem examination showed a condition of acute bulbar myelitis and thrombosis of the medulla, the location of which was apparently identical with that of the lesion described above by Dr. Van Giesen.]

On the other hand, collateral evidence to prove its existence continues to accumulate. Following the excellent experiments of Herman Krause upon the dog, Victor Horsley and Felix Semon, of London, have investigated the question in a series of carefully conducted experiments upon the monkey, with most interesting results. Through the kindness of Mr. Horsley the writer is permitted to publish the following *résumé* of facts as to " the representation of the vocal cord movements in the cerebral cortex " :

1. " In the monkey there is a small area at the lower and anterior portion of the foot of the ascending frontal gyrus, excitation of which produces complete adduction of the vocal cords (bilateral action). We never, in this animal, observed anything but adduction.

2. " Around this area there is also represented adduction of the vocal cords, but only feebly and in association with other movements—*i. e.*, deglutition, etc.

3. " Unilateral extirpation of the whole region produced no appreciable paralysis of the glottis closers or openers.

4. " Krause's statements respecting the position of the center in the dog were confirmed by us.

5. " In the cat we found that, when the cortex was excited, adduction was observed very rarely, but abduction almost invariably."

The foregoing conclusions are extremely interesting, not only by reason of the additional proof which they give as to the actual existence of a cortical motor center for the larynx, but because of their support of, and correspondence with, the recently accepted theories of cortical motor activity for voluntary movement, namely:

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* For a description of the blood-vessels of the medulla, Ross's " Diseases of the Nervous System," vol. i, p. 761, may be consulted.

1. That unilateral irritation of a given cortical center excites the corresponding bulbar center and causes bilateral movement.

2. That unilateral destruction of a given cortical center gives no result, as the influence of the opposite cortical center is sufficient to excite the corresponding bulbar center and thus to cause bilateral movement.

3. That bilateral destruction of a given cortical center causes paralysis.

These very discoveries, however, increase rather than diminish the difficulties in the way of solving the problem; for, admitting the foregoing, it is difficult to understand how any unilateral lesion of the cortex could cause a corresponding unilateral paralysis of the larynx. The hypothesis, therefore, upon which all the hitherto reported clinical observations relating to this subject have been made would seem to be wrong. In other words, paralysis of the larynx of central origin must, as a rule, depend upon bulbar lesion and not upon cortical injury.

In short, combining with the arguments of Gottstein, founded upon clinical and pathological evidence, the strong testimony of Mr. Horsley's physiological experiments, it can not be denied that, with the methods hitherto employed in the human subject, the results have been unsatisfactory, and to a certain extent misleading, and that the question is not likely to be settled until more successful means for its solution have been discovered. That in the human brain such a center does exist is made more certain with every succeeding group of experiments made upon the lower animals, and, well established in the dog and the monkey, it can be but a matter of time for it to be unquestionably located in man.

# OBSERVATIONS ON COUGH AND COUGH REMEDIES.*

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It is not proposed in the following brief remarks to discuss all of the many conditions and diseases in which cough enters as a symptom, but rather some of the more prominent of that numerous class of "walking cases" in which this phenomenon is the most conspicuous, and oftentimes the only, evidence of a variation from the standard of health. It is these cases that are so frequently abused and prejudiced by the unscientific administration of cough medicines.

When we are called upon to prescribe for a cough there are several questions of importance to be considered: First, the point of origin; second, the stage of the affection, and, if it be a bronchial cough, the nature of the secretions; third, the function of the cough: is it a useless cough, that requires to be checked, or is it a conservative act of nature, which should be encouraged or let alone? Some coughs, we should remember, are useless because ineffective, as in the early stage of bronchitis and in chronic bronchitis and phthisis with a tenacious, viscid secretion. Other coughs are useless from every point of view, as in uncomplicated pleurisy and in early phthisis, and require sedative remedies; and it is the province of the physician to decide which is least harmful, the cough or the sedative. After deciding that a cough remedy is indicated, we should bear in mind that many cough remedies are not only therapeutically unreliable, but are most inelegant pharmaceutically, and extremely unpalatable and even nauseating. Not a few of these agents lead very speedily to anorexia, constipation, and even confirmed dyspepsia, if continued beyond a proper period. These are important considerations when applied to remedies which have to be taken so often as those for the relief or cure of cough. We should not fail to assure our patient in the beginning that the cough is not a disease, but only a symptom, and sometimes a salutary symptom and conducive to his welfare.

The vast majority of these "walking cases" owe their origin to a congestion or inflammation of some portion of the respiratory mucous membrane. If there is much clearing of the throat and the cough is husky or stridulous, and accompanied by hoarseness of the voice, more or less pain in the throat, and the absence of physical signs of bronchitis or chest trouble, it is in all probability laryngeal in its origin. An examination of this portion of the respiratory tract will settle the diagnosis in most instances. Internal medication will hardly avail in these cases. The author has seen such cases treated for months with squill, senega, ammonia, and other expectorants, with the effect in many instances of complicating an attack of simple laryngeal irritation by the addition of severe digestive disturbance. If there be much pain and irritation in connection with the cough, a small quantity of a sedative preparation, as the tincture of aconite, chloral hydrate, or hydrocyanic acid, taken with a little sweetened water warmed to about 90° F., is very grateful and soothing.

If the cough is very dry, the secretion being deficient, the administration of one fiftieth to one thirtieth of a grain of hydrochloride of apomorphine, dissolved in water, or four or five grains of chloride of ammonium, will usually procure sufficient secretion to soothe and moisten the irritated membrane. Ten or fifteen minims of the oleo-resin of cubebs on crushed sugar, three or four times a day, will answer the same purpose. Curative measures, however, are to consist in the topical use of sprays, inhalations, etc. A discussion of these agents would far exceed the limits of this paper, but I can not dismiss the subject without warmly recommending a spray consisting of ten grains of borate of sodium in an ounce of tar water.

If the cough has its origin in the trachea or bronchi of the first magnitude, we have few or no physical signs by which to determine its origin, but we can usually do this by the history of the case and by the exclusion of other causes. If it is due to trouble in the lesser bronchi we have in most cases the presence of râles to aid us. If we can see a patient with bronchitis early enough, which is not often the case, we will find him suffering from a dry, teasing, useless cough, due to a swollen and congested mucous membrane. Under these circumstances, our object is to secure secretion as soon as possible. The time-honored Dover's powder and foot-bath at bed-time, with vigorous counter-irritation over the front of the chest, will sometimes abort these cases, but in many instances they are inefficient. It is then proper to resort to mild stimulating expectorants, and the author is acquainted with none more efficient and more palatable than a combination consisting of syrup of ipecac and chloride of ammonium, with syrup of wild cherry as a vehicle; and here it should be stated that syrups furnish us with the most valuable medium for the administration of cough medicines, not only in disguising the taste of drugs, but from their intrinsic soothing and sedative value. In some cases, however, they fail to agree with the patient, sometimes inducing nausea. It is then advisable to make the vehicle consist of equal parts of syrup and water, or else to omit the syrup entirely, substituting glycerin, mucilage, or gum tragacanth in its stead.

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* Read before the Clinical Society of the New York Post-graduate Medical School and Hospital, April 20, 1889.

If the cough is barking, hoarse, and rasping in character, and interferes with rest at night, as is frequently the case with children, a small quantity of vinegar and sugar, with the addition of a teaspoonful or two of burnt brandy, taken hot at bed-time, will often produce a happy result. This dry stage of bronchitis, however, usually lasts but a few days at furthest, when we have the stage of secretion established. This betokens the advent of recovery in many cases, and requires very little special attention for the cough, which speedily disappears under the use of an occasional dose of a stimulating expectorant. But if convalescence is not soon established, the affection passes into chronic bronchitis, and may become exceedingly difficult to manage. The cough of chronic bronchitis embraces almost every variety known, from the short irritative hack to violent, prolonged, spasmodic efforts, which sometimes lead to vomiting. Oftentimes a single case will present all these varieties of cough during its course, and we must vary our management accordingly.

If the cough is easy and painless, and accompanied by free expectoration, it derives its principal importance from the fears of the patient, and requires no special treatment beyond a small dose of squill, wine of antimony, or chloride of ammonium at long intervals, to keep it in this condition. Many patients having just such a cough as this are given sedatives, with a view of arresting the cough. This course is manifestly wrong, as a little reflection ought to show. If we attend to the patient's general health, advise him to wear warm clothing, to avoid exposure (and sedative cough drops), he will in all probability make a prompt recovery.

If the cough is dry, hacking, and irritating, with little tendency to expectoration, as is often the case in tracheitis, the sedative remedies mentioned in referring to laryngeal coughs are indicated. A drop of dilute hydrocyanic acid and a little syrup of tolu or wild cherry may be taken three or four times a day. If this does not allay the irritation, a few drops of the camphorated tincture of opium, or one thirty-second of a grain of morphine, or twenty minims of the tincture of hyoscyamus, may be added to each dose. In some cases a Soden mineral salt pastille, held in the mouth and allowed to dissolve slowly, will effect relief. Very often, in advanced stages of chronic bronchitis, we shall find the patient suffering from a distressing, violent, paroxysmal cough which sometimes ends in complete regurgitation or vomiting of the contents of the stomach. The exudation in these cases may be abundant, but it is very difficult to raise, owing to its viscidity. The paroxysms are most severe on rising in the morning, for the reason that the change of position from the recumbent posture causes the exudation which has accumulated during the night to occupy a new and more sensitive surface of the bronchial mucous membrane. The object of treatment in this class of cases is to promote the liquefaction of the exuded products, thus facilitating their easy expulsion with slight coughing efforts. Stimulating expectorants are especially indicated, and the familiar formula known as Stokes's expectorant, each dose of which contains one grain of carbonate of ammonium and two minims each of fluid extracts of squill and senega and tincture of tolu, is of undoubted value. I have prescribed this formula in hundreds of instances, and have never known it to fail of good results in properly selected cases. A little hot tea or coffee on rising, or, better still, a cup of hot bouillon, will also serve to mitigate the severity of the inevitable morning coughing spell. Sedative cough remedies and respiratory depressants should be sedulously avoided. They obtund the sensibility of the bronchial mucous membrane, and thus allow the exudation to accumulate in such quantities as to seriously embarrass or even to compromise respiration.

According to Fothergill, a patient may be educated to materially aid the usefulness of his cough by an effort of the will. He should always be instructed to take a long and deep inspiration before giving way to the expiratory coughing act. This is a point of some importance, as there can be no doubt that long and violent coughing spells form one of the prime factors in the development of collapse of the pulmonary alveoli and consequent emphysema. In case the latter complication should be ingrafted upon a bronchitis, it is advisable to add a few grains of iodide of potassium to the cough mixture, and if there is much dyspnœa, a few drops of Hoffman's anodyne is a valuable adjunct. It is doubtful if strychnine has any further advantage than that to be derived from its tonic properties.

In cases of bronchorrhœa in chronic bronchitis, it has always been a question in my mind whether we can permanently diminish the excessive secretion by other means than those directed to the general health. Opiates and astringents do temporarily lessen the exudation, but in doing so they often increase the suffering from dyspnœa, and are very apt to produce constipation and loss of appetite.

In cases of recurring bronchitis or winter cough, I have used terebene, as recommended by Murrell, with considerable advantage. The beginning dose is four or five drops, which may be increased to twenty or twenty-five if required. It may be continued a long time without harm to the patient's digestive functions. Murrell also highly recommends syrup of tar with apomorphine for the same variety of cough.

This symptom is always one of prominence and importance in phthisis, being present, as a rule, from the inception of the disease. It often presents the same characteristics as those mentioned in the cough of bronchitis, and under those circumstances requires the same measures for its relief, the two cardinal points being to soothe and relieve painful and irritative coughs, and to facilitate the liquefaction and expulsion of exuded material in the bronchi and pulmonary cavities. Some special features in connection with phthisical coughs, however, deserve separate mention. The cough at the beginning, and in some cases for a long time afterward, amounts only to an occasional dry hack. Expectorants do no good here, and we can not arrest the cough by means of sedatives. The quieting effect to be obtained from the compound syrup of the hypophosphites, which is usually indicated for its tonic and reconstructive properties, is often sufficient to allay the cough. Indeed, it has been my practice to employ this syrup as a vehicle generally in the coughs of phthisis instead of other syrups. In some cases where cough medicines are not well borne, a useful expedient consists in placing an ounce or two of glycerin on a flat dish, heating it, and allowing the patient to inhale the vapor as it rises, as recommended by Trastour. If there is a tendency to hæmoptysis, a little ergot and gallic acid should be incorporated with the cough remedy, and stimulating expectorants avoided.

If fœtor is present, as is often the case when phthisical and bronchiectatic cavities exist, a small quantity of creasote, carbolic acid, or Listerine is advisable. In weak and debilitated subjects the cough formula of Dr. I. N. Love, of St. Louis, consisting of a combination of extract of malt, whisky, glycerin, lemon-juice, and crushed sugar, is of great value, both as a remedy for the cough and as a stimulant and reconstructive.

I have occasionally met with a cough that seemed to me to be entirely unwarrantable to attribute to any of the foregoing causes. Some of these cases are extremely severe, the cough being almost incessant. Paroxysms are brought on by changes from a warm to a cold room, by dust and strong smells, etc. Sneezing is a very frequent concomitant. Cases of this kind are probably due to an abnormal reflex action of the fifth pair of cranial nerves, and the affection has been termed by Schade trigeminal cough. In accordance with the starting point, these cases may be subdivided into nasal, pharyngeal, and auricular. They are diagnosticated by the foregoing symptoms, and by the exclusion of all diseases of the larynx, bronchi, or lungs. Expectorants are often prescribed for months at a time to these cases, but are entirely without value. Occasional passage of the nasal sound somewhat roughly, so as to draw blood, has been recommended. Weak currents of electricity are also useful, but frequent insufflation of weak carbolized solutions, with the internal administration of equal parts of iodide and bromide of potassium in considerable doses, has proved most successful, at my hands.

The cough of pleurisy is usually painful, and is avoided when possible, especially before the period of effusion. If the pleurisy is uncomplicated by bronchial trouble, the cough is dry and not specially troublesome. It requires no treatment beyond an occasional sedative. A profuse purulent expectoration in the course of a suppurative pleurisy is a grave symptom, as it indicates the presence of either broken-down tubercular areas in the lung, or the formation of circumscribed spots of necrosis in the pleura, which have allowed the pus to filter through into the lung tissue. When this occurs, we should at once evacuate the pleural cavity, and promote expectoration by carefully selected stimulating expectorants.

Disease of the mitral valve, either obstructive or regurgitant, is generally attended by a cough, if there be loss of compensation. It is usually a hacking, teasing, irritative cough, which, as the affection progresses, is apt to be accompanied by a profuse watery expectoration, amounting even to bronchorrhœa. Sometimes the expectoration is blood-stained. It is a serious symptom, as it indicates extensive pulmonary congestion or œdema. Hæmoptysis is likely to occur at any time. Cardiac tonics are clearly indicated in this condition. I have seen such patients do remarkably well under the use of citrate of caffeine, two to five grains, four times daily, with a little carbonate of ammonium as an expectorant and general stimulant. Active exercise or exertion should always be prohibited.

A loud, barking, clanging, metallic cough, painful to the patient and distressing to the hearer, and accompanied by a small quantity of glairy mucus, should always excite suspicion, and lead to a careful physical examination. It is of great significance, and if with it there is the high-pitched, shrill, sibilant vox anserina, it is almost pathognomonic of thoracic aneurysm. As the disease extends, the expectoration becomes more abundant, owing to the establishment of a consecutive bronchitis. It may become sanguineous or muco-purulent in character. Strict quietude and sedative cough remedies are indicated.

The foregoing varieties of cough are those most commonly met with in daily practice. There are, to be sure, many other causes of cough, as, for example, the cough linked with gastric irritation, the cough of pregnancy, and the cough connected in some way with ovarian and spinal irritation. It is beyond the scope of my paper, however, to discuss these coughs. It is sufficient to say that intelligent treatment is dependent entirely upon a correct diagnosis, as the remedies indicated in ordinary coughs are of no avail.

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# CASES OF SUPRAPUBIC CYSTOTOMY.*

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My object in presenting the following cases for your consideraion is simply to place them upon record, with the hope that, perhaps, something in their management may add to the experience of others.

My own experience has been limited to six cases—two for the removal of tumors from the wall of the bladder, three for vesicular calculi, and one for the removal of a calculus, together with the excision of three small tumors (probably prostatic) from the internal urethral orifice.

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* Read before the American Association of Genito-urinary Surgeons at its third annual meeting.

Case I. *Calculi.*—Patient aged seventy-three, native of the United States, mechanic. This old man gave no renal, pulmonary or specific history. He has had some pain over the heart, "spots before his eyes," and attacks of dizziness. His arteries are notably atheromatous. For some years he has had frequent urination, but no pain till about a year before this history was taken, when he experienced a burning sensation in his urethra and pain at the end of the penis. At that time he was searched, but no stone was found. Since then he has been gradually getting worse. He has had attacks of hæmaturia, especially after walking or any muscular effort, and he is compelled to urinate about every two hours. On searching him with a lithotrite, one stone was grasped and another could be felt in the bladder. Suprapubic cystotomy being decided upon, the operation was done with the aid of Petersen's rectal bag.

The bladder was reached easily, and, on being opened, considerable hypertrophy of the prostate was found. Behind the prostate was a deep pouch in which were four stones, one large one and three smaller. The latter accurately fitted each other by facets, forming a tesselated stony floor to the pouch, upon which the large stone rested.

Inasmuch as the patient had considerable cystitis, the bladder was not sutured. Two rubber drainage-tubes were introduced to the base of the bladder, the wound was packed with iodoform gauze, and over this the usual antiseptic and absorbent dressings, consisting of layers of iodoform and bichloride-of-mercury gauze and absorbent cotton, were applied. The wound was irrigated frequently with a solution of mercuric bichloride (1 to 5,000), but the bladder was irrigated with a boro-salicylic solution. One of the tubes was removed on the fourth, and the remaining tube on the seventh day. From that time the catheter was passed twice daily, and the bladder irrigated with the customary boro-salicylic solution. The wound granulated rapidly. On the eleventh day the patient was out of bed, passing the greater portion of his urine by the natural channel, but still continued to wear over the sinus leading to the bladder a pad of absorbent cotton, which, when properly attended to—*i. e.*, when changed frequently enough—kept his clothing dry.

Two weeks after, it is noted that he still had a sinus, through which a little urine escaped, but most of it passed *per urethram.* Ten days later the wound was entirely closed, and, in spite of the enlargement of the prostate, he was able to evacuate his bladder spontaneously. During the whole course of the healing process this patient had no pain. On the day of the operation he was comfortable, and on the second day after was lying on his side reading the newspaper. The drainage may be considered to have been efficient so far as the bladder was concerned, but his bed and clothing were always somewhat wet until he was permitted out of bed, and even then his clothing would be wet unless the absorbent cotton was frequently changed.

Case II. *Papilloma of the Bladder.*—This patient was kindly referred to me for operation in St. Luke's Hospital by Dr. Otis, and has already been reported by him * in illustration of the advantage of the cystoscope. I mention it briefly only to give some details of the operation and of the after-treatment. Petersen's method was attempted, but, for some reason or other which was not discovered till after the operation, the rectal bag did not lift the bladder. The patient's abdomen being very fat, and its muscles rigid from imperfect etherization (he did not take ether well), a sound was passed into the bladder through the urethra, and the incision guided by this. The recti muscles contracted so firmly that at first I experienced difficulty in examining the interior of the bladder, but by deepening the ether narcosis and using vaginal specula as retractors, the tumor was fully exposed and easily removed by scissors, the curette, and Paquelin's cautery. One large drainage-tube was inserted to the bottom of the bladder, and the incision in the latter was brought together by a continuous catgut suture, as likewise were the different layers of the abdominal wall, leaving only an opening for the tube. The abdomen was dusted with iodoform, and over all a thick antiseptic dressing of bichloride gauze and absorbent cotton was placed. The free end of the drainage-tube was placed in the dressings. After the operation the patient had violent vesical tenesmus for three days, controlled only by hypodermatic injections of morphine.

For the first week, besides the urine, there was a discharge of pus and mucus stained with blood, and the bladder was washed out through the abdominal wound three times daily with a boro-salicylic solution. This discharge gradually disappeared, and on the eighth day the tube was removed. The wound had united by first intention, but in the first week about two thirds of it broke down and slowly healed by granulation. Even by frequent changing of the dressing it was impossible to keep the patient dry. He could not endure the use of the catheter, and was excessively hyperæsthetic and "nervous," but he steadily regained the power of evacuating his bladder by the natural channel, and by the twenty-fifth day did so entirely. It was not till the thirty-fifth day that the wound in the abdominal parietes was entirely healed.

Case III. *Papilloma of the Bladder.*—This patient was also referred to my service in St. Luke's Hospital by Dr. Otis. Two years before coming under observation he noticed, while passing water, that a large amount of blood came with it. He had no further trouble until several months later, when he had a second hæmorrhage. For some months past he has had at different times hæmorrhages while urinating, none of which were very large, but he had them repeated to an extent sufficient to cause anæmia and great deterioration of his health. By means of the cystoscope, Dr. Otis diagnosticated a tumor, probably papillomatous, on the right side of the bladder. His hæmorrhages had now become so frequent and so abundant that his urine always contained a large amount of blood, and his condition was such that operative interference was imperative. At the time of the operation I repeated the examination with the cystoscope and located the tumor, but it was covered with clots of blood and I could not definitely describe it. The rectal bag was inserted and distended with twelve ounces of water. Nine ounces of a warm and weak boro-salicylic solution were injected into the bladder before the latter was made prominent above the pubes. The abdomen was very thick and contained a large amount of fat. After dividing the transversalis fascia and the layer of fascia covering the supravesicular fat, the latter was easily and rapidly stripped up, carrying with it the peritonæum. Silk sutures, one on either side of the median line, were then passed through the bladder, which was thus held up into the wound and incised with a pair of scissors. As the fluid escaped from the bladder, a suspicious-looking fat (which proved to be omentum) appeared in the upper part of the wound. A careful examination being made, it was found that one of the sutures had caught the peritonæum where it was lower on one side of the surface of the bladder and was thus drawn into the line of the incision. The wound in the peritonæum was sutured immediately by catgut and the bladder opened freely toward the pubes. The bladder was held open by a vaginal speculum, and the tumor seen on the right side of the bladder was removed by scissors. A good-sized artery supplied the center of the tumor and free hæmorrhage occurred, but it was controlled with a silk ligature, the ends of which were brought out of the wound. There was also considerable parenchymatous hæmorrhage from the base of the tumor, which persisted in spite of the use of the actual cautery. Against this a strip of iodoform gauze was carefully packed, and the two drainage-tubes, placed in the bladder, made sufficient pressure against the gauze to stop all bleeding. A small drainage-tube was inserted in front of the bladder in the lower angle of the wound; the upper part of the abdominal wound was brought together by continuous catgut sutures and an antiseptic absorbent dressing applied. The patient had very little pain immediately after the operation, but for nearly ten days thereafter had paroxysms of pain, especially at night; but these gradually decreased in severity and finally ceased. The bladder was irrigated twice daily by a boro-salicylic solution. On the fourth day the iodoform gauze in the bladder and one tube were removed. The wound granulated well. From the second day after the operation the catheter was passed daily and the bladder irrigated also by means of this, but on the seventh day after the operation, the patient had some urethritis, and the use of the catheter was omitted. On the thirteenth day the patient was out of bed, passing some urine through the urethra. On the eighteenth day the wound was closed, so that when the patient was in a standing position and pressure made over the pubes, he could urinate normally. On the twenty-fourth day he went to his business, but there was a fine sinus leading downward and backward, through which a probe could be passed, and from which a few drops of urine escaped. I passed through the urethra as large a sound as the meatus would admit, and four days later he reported to me that some urine had escaped from the sinus the night of the operation (*i. e.*, the introduction of the sound), but none since. This patient had no temperature above 99° F. during the whole process of healing.

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* See "Medical Record," May 5, 1888.

Case IV. *Calculus.*—This patient was a well-preserved man of forty-nine. For several years he had had symptoms of vesical irritability. Of late he had had hæmaturia, painful and frequent urination, and continued pain in the bladder with paroxysmal exacerbations, the pain especially increased by locomotion. The first searching revealed a stone of comparatively large size, but subsequent searchings failed to detect it. Being certain as to the first exploration, and finding that the bladder was very irritable, I decided upon suprapubic cystotomy, which was performed a few days later. This patient's abdomen was very fat and the muscular wall of the bladder was not easily exposed, but by two silk sutures inserted, one on either side of the median line, it was lifted and opened. A large, flat stone was found resting behind the pubes, which may account for its eluding the searcher, the latter being resisted and compressed by the irritable bladder. One small, straight rubber drainage-tube (about seven centimetres in diameter) was placed in the bladder, and the wound in the latter sutured with catgut, excepting the small part occupied by the tube. A fine drainage-tube was placed in front of the bladder in the lower angle of the wound, and the abdominal tissues were then sutured with catgut. The whole was covered by an antiseptic dressing, consisting first of layers of iodoform gauze, then of several thicknesses of bichloride gauze, and over all a thick layer of absorbent cotton. The end of the drainage-tube was carried through a layer of absorbent cotton packed in the mouth of a glass urinal (known in hospital parlance as a "duck"), which was placed on the bed beside the patient.

At first this promised well, and served to accumulate a large proportion of urine, but the patient soon began to suffer from vesical tenesmus. The paroxysmal contractions of the bladder forced a certain amount of urine by the side of the drainage-tube, sufficient to saturate the immediate dressings, and thence by imbibition to the bed-clothing.

For forty-eight hours it was necessary to relieve his pain by hypodermatic injections of morphine. After that he had no pain. On the evening of the operation his temperature was 101° F. For five days it was about 100°, and after that normal. On the tenth day he passed some urine normally, and from that time on the quantity passed by the urethra gradually increased. On the sixteenth day he was out of bed, wearing a pad of absorbent cotton, which took up a small amount of urine escaping from time to time from a suprapubic sinus. On the twenty-first day he returned to his business, but he still had a narrow sinus, which I probed and measured and found to be three inches long, curving downward and backward behind the pubes. From this a drachm or so of urine escaped, especially at night. As there was no prostatic obstruction in this case, I thought, as in the preceding case, that perhaps the urethra had lost tone from disuse, and therefore passed through the urethra, well into the bladder, a sound as large as the meatus would admit.

On the second day after this simple manœuvre there was no discharge whatever from the sinus, and on the fourth day it had entirely healed to the level of the skin.

Case V. *Calculus; Three Small Tumors.*—This patient was a professional man of fifty-nine—a man of temperate and regular habits, a total abstainer as regards alcohol and tobacco, and without any venereal history of any kind. About thirty-four years ago he had a retention of urine for several hours, without any known cause excepting "catching cold." This was relieved by the catheter, and he had no further trouble. For several years he had frequent urination, but never any pain or anything that called particular attention to himself until about two years ago. At that time he began to have cause to urinate every two hours, the amount of urine each time being scanty. The stream would stop suddenly and then come on again. He was examined by an electrician, and was told that he had one or two strictures. These were said to have been "cured" by electricity; but he was under treatment for eighteen months, and during the course of this treatment it was discovered that he had "*enlarged prostate*," and he was recommended to use the catheter. He had some relief from his sufferings both as to frequency and pain in the act of urination; but he soon (in the course of three months) began to have intense pain, and the calls to urinate increased again to once in two hours and oftener. Then the electrician made four applications of the galvano-cautery to the so-called "enlarged prostate." After that he was confined to his room; his urine became "foul" and bloody, and he was said to have had "fever" every night. For eighty-six days before I examined him he had been utterly unable to pass any urine except by the catheter. His sufferings were extreme—continuous pain in the bladder and penis, with paroxysmal exacerbations of extreme intensity. When I first examined him there was by the rectum no appreciative enlargement of the prostate. The ordinary Thompson searcher passed readily and easily into the bladder, without deflection or depression of its handle, and its beak immediately produced the characteristic click of a calculus. His urine was loaded with pus and mucus, and was horribly offensive in spite of an occasional washing of the bladder, which he resorted to unwillingly, as it seemed to aggravate his sufferings. This was his condition in spite of the daily use of electricity and of the homœopathic remedies which he was taking with religious fidelity every two hours, night and day. A few days after this examination the operation of suprapubic cystotomy was done in the usual manner. The bladder was easily reached, incised, and a very large spherical calculus, weighing 390 grains, easily removed. The bladder seemed to have contracted around the stone in such a way as to form a shallow pocket (not like a diverticulum or sac with a narrow mouth), in which the stone moved or rolled, but which could be distinctly made out by the exploring finger. The small portion of the bladder between the anterior wall of this pocket and the mouth of the urethra seemed to be normal. By means of the vaginal specula, aided from time to time by the electric light, the interior of the bladder was easily inspected. The mucous membrane was greatly hypertrophied, bluish-red in color, bleeding easily, and near the base posteriorly were seen a few drops of clear pus oozing into the bladder. At first I thought it to be escaping from one of the ureters, but close examination revealed a little abscess in the bladder wall, probably near the site of the calculus. During the subsequent manipulations this was thoroughly evacuated and irrigated. Around the internal orifice of the urethra were three small sessile tumors, soft in consistence, and apparently of hypertrophied mucous membrane. They were of unequal size, but were about the dimensions of half a cherry. Their globular surfaces projected inward and toward each other in such a way that, when they folded together, they completely occluded the urethra. They were easily separated by the finger from within, or by an instrument (sound) passed through the urethra from without; but they immediately approximated themselves, and evidently acted during a contraction of the bladder as an obstructing valve to the exit of fluids. An attempt was made to excise these with a wire écraseur, but failed because they were too soft to be drawn into the loop of the wire. I then seized each one in turn by forceps, and removed it with scissors and a sharp spoon. They were so friable that the portion in the grasp of the forceps would tear off immediately, and it was by a process of nicking and scratching that they were finally removed, so that, both to the sense of sight and touch, there was no obstruction to the urethra. The bleeding surfaces were treated by Paquelin's cautery; but an artery of considerable size, supplying one of the tumors, was, after some difficulty, secured by a catgut ligature. The bladder was thoroughly irrigated; a drainage-tube, of about five centimetres in diameter, placed in the bladder, was held *in situ* by a silk ligature carried through the abdominal wall and through the tube. I deemed it unadvisable to suture the bladder or the layers of abdominal tissue, but packed the wound with iodoform gauze, and over this placed the usual antiseptic and absorbent dressings.

The free end of the drainage-tube was placed in a larger one, three or four feet long, the other end of this second tube being weighted and led beneath the level of a solution of (1 to 40) carbolic acid in a glass jar. The latter was placed on the floor near the bed, and a perfect siphon process established. The patient for the first night had repeated attacks of vesical tenesmus relieved by the use of morphine. After that he had no pain. For three days the drainage-tube worked perfectly, and the patient's dressings were kept dry. After that it ceased to be efficient, and, although it siphoned over the greater amount of urine, some escaped by the side of the tube upon the dressings. The tube was removed on the fifth day, and after this, in order to keep the patient's dressings dry, it was necessary to remove the pads of absorbent cotton every few hours. The patient's nocturnal temperature had been 102° F. before the operation, but after this it daily decreased, and on the fourth day was normal. In every respect his improvement was rapid. The offensive odor disappeared immediately, but the bladder was irrigated every time that the dressings were changed till the ninth day, when the mucus and pus had decreased so greatly that after that the bladder was irrigated but once a day. On the eleventh day the patient passed some urine by the urethra, and on the thirteenth day he was out of bed for a few hours only. The wound granulated freely, and on the ninth day it is recorded that only the narrow point of the irrigating tube could be insinuated into the bladder. This patient is still under observation. He has not yet regained normal urination, but passes a few drachms spontaneously.

CASE VI. *Calculus.*—The patient, aged sixty-nine, native of the United States, was a temperate man of good general history. For a number of years he has had paroxysms of dyspnœa lasting a few moments and occurring especially at night. No gastric or other symptoms. For a month or six weeks he has had some swelling of the right foot and leg, with an ulcer on the leg and pain in the heel. For some months he has had frequent micturition, more marked at night, some hesitation and straining at commencement of the act, and occasional stoppage of the flow of urine. The stream is small, the last few drops passing always without control, and the quantity passed at a time is small. Sometimes his urination is precipitate, and at times he has pain at the end of the penis on urinating. Driving or jolting increases his micturition. He has had one attack of hæmaturia. About two months ago he underwent an operation for hæmorrhoids, which were supposed to be the source of his troubles. He makes from twenty-seven to thirty-seven ounces of urine in the twenty-four hours, which contains a large amount of leucocytes and about one per cent. of albumin. There is felt *per rectum* considerable hypertrophy of the prostate. With great difficulty and after some persistency the searcher is introduced into the bladder and a calculus detected. The operation was done in the usual way. Seven ounces of warm boro-salicylic solution were injected into the bladder, and into the rectal bag nine ounces. Although the patient was very obese, the bladder was brought prominently in view, and was reached without difficulty. The layer of fascia, containing a mass of fat, was easily rolled up, carrying with it the peritonæum. The bladder was opened, and two stones of very unusual shape were removed. One consisted of a spherical central portion, with seven secondary crystalline deposits radiating from it like the spokes of a wheel. The radii were about half an inch in length, were bifid at their extremity, and the whole stone had the appearance of an ordinary iron "jack-stone" used by the children. The second stone was cone-shaped, the apex of the cone being very sharp. A single drainage-tube was placed in the bladder, secured by a silk ligature to the abdominal wall and to the lower end of the wound. The wound in the bladder was carefully brought together by continuous catgut suture down to the drainage-tube, and the wound in the abdomen treated in the same way.

The usual antiseptic dressings were applied, and the siphon drainage as described in the preceding case was established. The siphonage was perfect for three days. Then urine began to escape by the side of the tube and also *per urethram.* From twelve to fifteen ounces were passed each day in the natural way. The patient had no pain from the time of the operation. His temperature did not rise above 100, and then only for a day. After that it was normal. The tube was removed on the third day and the proportion of urine which escaped through the abdominal wound was received by the usual absorbent cotton, and by frequent changing the patient was kept comfortable and comparatively dry. On the sixteenth day he was out of bed, urinating entirely by the urethra, and with the wound in the bladder and abdomen closed.

Permit me a few remarks upon the technique of these operations and upon their after-management. In making the incisions through the abdomen, I have observed that the line between the pyramidales muscles may be readily found by first ascertaining the notch made by the junction of the two pubic bones. The pigmented line of the rhaphe curves laterally in some individuals at the lower part of the abdomen, and is not always a good guide to the separation between these two muscles, but by deep pressure above the mons Veneris this notch can always be felt, and the lower end of the incision should be directed to this point without regard to the course of the rhaphe. The consecutive incisions following the line of the first one easily and rapidly proceed to the transversalis fascia, which, being divided (sometimes also another thin film of fascia), the supravesicular fat, carrying with it the veins and the peritonæum, may generally be quickly and easily stripped up with the finger. These may be small matters, but under some circumstances rapidity of execution in the operation may be a necessity, as in the case of the patient aged sixty-nine, whose cardiac and nephritic conditions were such as to require most careful watching.

In one case I was obliged to find the bladder by means of a sound passed through the urethra. Why the rectal bag had failed was not ascertained till after the operation, when it was found fully distended (with ℥ xvj of water) in the douche pan upon which the patient was lying. During the early administration of the anæsthetic and before my first incision was made he had evidently forced the bag out of his rectum. I had taken it for granted that the rectal bag had burst, and, not wishing to delay the operation, went on with the aid which I have described. It was gratifying to learn later on that such a distension of the man's anus had had no ill effect. Lange reports a laceration of the rectal wall by the rectal tampon.

From Eigenbrodt's report from Trendelenburg's clinic, in the "Deutsche Zeitschrift für Chirurgie," Bd. xxviii, 1888, I learn that he thinks it unnecessary to resort to the rectal bag; nor does he dilate the bladder forcibly, but just enough to produce a dull percussion sound above the pubes. The preparatory treatment advocated by Petersen and Perier in cases of contracted bladder or cystitis when present—namely, repeated injections—I have not considered necessary, but have operated at once in order to remove as soon as possible the cause of the bladder symptoms.

In none of my cases have I found it necessary to resort either to the transverse incisions or to the elevation of the pelvis, both of which are advocated by Trendelenburg. The interior of the bladder was always easily exposed by the use of uterine or rectal specula, which not only reflected a strong light upon the field of operation, but did not interfere with the manipulations. A wider experience may lead me to adopt one or both of these procedures.

I have made no attempt to secure primary union of the *whole* wound in the bladder, but in cases where the latter seemed to be in good condition have sutured it, excepting the small portion for the drainage tube. In others, the wounds have been left open, together with the overlying tissues, in order that the whole might be healed by the process of granulation. Dr. Lange has lately recommended securing primary union of the walls of the bladder by means of a retention catheter, and reports some excellent results. I doubt if any of my patients could have endured the presence of a catheter for a number of consecutive hours, nor do I think it advisable, in order to secure an insensitive urethra, to narcotize or semi-narcotize the patient by the administration of opium. It seems to me that the patient's well-being and his healing forces should be preserved by avoiding narcotics, and using them only for the relief of violent paroxysmal pains from which some of these patients suffer for a short time after the operation. For the same reason I have not restricted the patients to any particular posture after the operation. I leave them to choose their own posture, and, as you will remember, the old man, in the first case reported, lay upon his side reading the newspaper on the second day after the operation. The abdominal decubitus which Trendelenburg recommended, I am glad to see, he no longer considers essential. I have tried different methods of drainage, and do not find any special advantage in the Trendelenburg T-tube. One or two straight fenestrated rubber tubes, kept thoroughly cleaned by an antiseptic solution, serve the purpose admirably. The siphoning system, as I have described it in reporting the cases, seems to be the most advantageous, but all methods seem to fail after three or four days. By this time granulations have generally covered the wounds, and then I resort to pads of absorbent cotton which, if changed with sufficient frequency, will keep the patient's clothing and bed dry. I doubt if any system of drainage will prevent the sudden and violent expulsion by the side of the tube of a certain amount of urine, which soon by capillary attraction finds its way to the surrounding clothing. Later on, say after the first ten days, I have found that the patients are able to attend to the changing of the absorbent cotton themselves. A roll of cotton within easy reach and a basin placed by the side of the bed for the reception of the soiled cotton, enable them to keep themselves comfortable with comparative trifling expense and trouble, for they soon learn when to change the cotton.

It seems to me to be a good plan to get these patients out of bed long before the healing process is completed, for, in my judgment, the function of the urethra is more quickly restored and the openings in the bladder and abdomen are more quickly healed perhaps by the pressure which the abdominal contents exert when in the upright position. In each of two cases there was a fistula which may have been slowly healing, but which seemed, in spite of the otherwise good condition of the patients, to be inclined tò persist. Reasoning that this might be due to the loss of tone of the urethra, I did the very simple thing of passing a sound, and, as you no doubt have noticed from the history, the largest and deepest fistula was healed in two days and the smaller one within a day after the use of the instrument. This seems a very simple method, but it may be scientific. At all events, one of these patients informed me that after the passage of the sound he made a stream larger and with greater force than he had done before. While I do not attach much importance to such statements from patients, unless I have had the means of verifying them, I think this was true, and it leads me to suggest to my colleagues that even slight obstructions in the urethra may prevent the rapid healing of these troublesome fistulæ. Hence in such cases the meatus and urethra should be carefully examined.

127 East Thirty-fourth Street.

# A SELF-REGISTERING ASEPTIC DILATING URETHROTOME.

By ARPAD G. GERSTER, M. D.,
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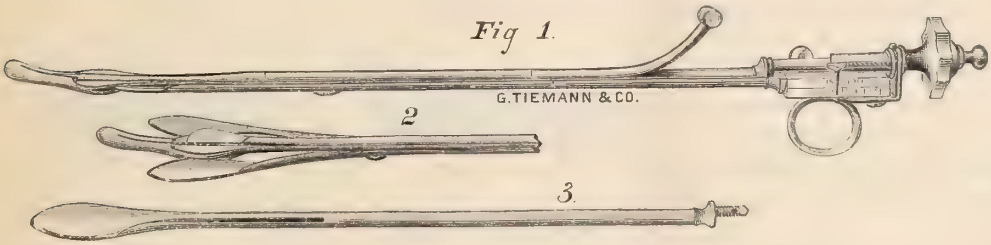
With a grateful appreciation due to Professor Otis for the new departure instituted by him in establishing a rational treatment of the chronic complaints of the male urethra, and especially with a just estimation of the effectiveness of his celebrated dilating urethrotome, it can not be denied that one drawback—the only serious one—is inherent to its plan of construction. The instrument can not be taken apart for cleansing, and consequently its aseptic condition must be secured by boiling before and after each operation. The numerous grooves found in the instrument are not easily accessible, the joints are practically inaccessible to the cleansing influence of brush and pin, and, last but not least, moisture is easily retained in the joints, whereby the delicate pins forming the fulcra become rusted and untrustworthy. It is fair to state that with a long-continued and frequent use of Professor Otis's instrument during the performance of internal urethrotomy, no mishap has ever occurred to me that could be charged to any defects of the construction of the instrument. But this safety has been purchased at the cost of great care in cleaning and drying, and especially in testing the instrument before each operation. Thus it was found that rusty pins broke under moderate finger pressure exercised upon the blades of the distended instrument, and once or twice some of these pins were found broken even before the application of pressure.

Another drawback, of lesser import, however, is to be found in the necessity of limiting the extent of the urethral incision by previous careful measurement. And the question whether the depth of the incision is adequate or not has to be settled, and can not be settled otherwise than by subsequent measurement with a bulbous sound of some kind or another. In short, we can not ascertain by the aid of Otis's urethrotome alone whether our incision is long and deep enough to meet the purposes of the required operation.

For a number of years I felt the want of a urethrotome that could be taken apart easily for cleansing, and that would combine the virtues of Otis's urethrometer with those of his urethrotome. I have abundantly demonstrated ("Rules of Aseptic and Antiseptic Surgery") the feasibility of completely and safely dividing a urethral stricture of the pendulous portion by means of an Otis's urethrometer and a long-shanked, blunt-pointed tenotomy knife, and the idea embodied in this experiment served me to evolve the plan of the new instrument hereby presented to the profession.



The new urethrotome is composed of five easily detachable parts: three steel rods and two screws. One of the rods is provided with a laterally grooved bulb of small size (Fig. 2), acting as a wedge, which, by the aid of a stout thumb-screw, serves to spring apart a pair of congruent steel blades (Fig. 3). The amount of separation of these steel blades (somewhat resembling a pair of old-fashioned draper's shears), reduced to millimetres, corresponding to the urethral caliber, is indicated by a dial placed above the ring that serves for the fixation of the instrument. The correct adjustment of the thumb-screw is secured by a small check-screw which represents the proximal end of the urethrotome. The third rod, a small knife, hidden in the slightly curved beak of the instrument, can be withdrawn so as to correspond to the place of widest separation of the shear-blades. The caliber of the closed instrument is exactly 15 millimetres. It permits of a distension to 45 millimetres, and in these particulars coincides with the minimal and maximal dimensions of Otis's urethrotome. It can be taken apart in fifteen seconds, and can be put together in about double that time.

The *modus operandi* is as follows: The urethra being properly prepared, the closed instrument is lubricated with glycerin, and passed in well beyond the stricture or strictures. After this the shear-blades are separated by means of the thumb-screw to the desired caliber, and the instrument is drawn forward until it becomes arrested by the resistance of the stricture. Now the hidden knife is drawn into position, and the whole instrument, being firmly grasped, is steadily pulled forward. Thus the stricture is gradually dilated so as to offer a favorable degree of tension for the effective use of the knife, which will readily cut all the resistant tissues composing the stricture. The moment that the stricture is cut along its entire linear extent, and to the proper depth, the distended part of the instrument, which serves the purpose of a bulb, will slide through the site of the stricture, thus indicating that an adequate amount of division has been accomplished. A series of strictures can thus be divided one after the other without the necessity of removing the instrument from the urethra.

I have tested the practical utility of this urethrotome in thirty-four cases of stricture, and have to add only one piece of advice, the importance of which has become manifest with widening experience. It is advisable in cases of comparatively tight and very dense stricture, where a great disproportion exists between the normal caliber of the urethra and the caliber of the undistended stricture, not to attempt a complete division of the stricturing bands at one stroke, as the great amount of traction required to accomplish a full distension of the stricture would threaten a circular rupture of the urethra on a line just beyond the proximal limit of the stricture. It has been found much safer and also easier to cut such strictures *gradatim*. What I mean is this: That, the instrument being introduced, the first cut is to be made at a moderate degree of dilatation. The knife being slipped back, and the instrument somewhat closed, it is again passed behind the stricture, when a second cut is made, the dial indicating this time five or ten millimetres more of dilatation than was accomplished by the first cut. And this should be repeated until thus gradually full division is accomplished.

My thanks are due to Mr. Stohlmann (of George Tiemann & Co., surgical cutlers), who by his courtesy and technical advice has greatly aided me in devising the new instrument.

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# THE MECHANISM AND ANATOMICAL FEATURES OF THE INJURY KNOWN AS SUBLUXATION OF THE HEAD OF THE RADIUS.

By ROBERT T. MORRIS, M. D.,
INSTRUCTOR IN SURGERY AT THE NEW YORK POST-GRADUATE MEDICAL SCHOOL.

An exhaustive paper on the subject of the literature and the clinical features of the injury commonly known as subluxation of the head of the radius was read by Dr. W. W. Van Arsdale at the New York Academy of Medicine on March 11, 1889, and the conclusions reached by that author were practically as follows:

"1st. The injury occurs rather frequently in children under nine years of age, and rarely in adults, making, according to statistics, more than one per cent. of all surgical injuries among the children who are taken to the dispensaries here for treatment.

"2d. Its most common exciting cause is a sudden traction upon the hand and arm, but it sometimes follows falls upon the elbow.

"3d. Its symptoms are absence of any marked deformity, temporary loss of function of the muscles of the arm, local pain on pressure near the head of the radius, pronation of the hand, slight flexion at the elbow, and clicking sounds at the elbow on making passive motion at that articulation.

"4th. It is a well-defined surgical injury with well-marked symptoms and due to the same anatomical lesion in each case, but the anatomical character of the injury has not as yet been satisfactorily described."

In order to examine into the latter question, I procured, on April 17th, through the kindness of Dr. W. P. Northrup, four fresh arms. Two of these were from a child four months of age, and the others from a child fourteen months of age. These arms, with the skin and the hands removed, were placed in weak acidulated bichloride-of-mercury solution, and the following experiments were made during the next twenty-four hours:

Experiment No. 1.—Left arm of four-months-old child. All muscles dissected apart from each other, and ligaments of elbow freely exposed. Traction upon radius and humerus simultaneously, and with varying degrees of force.

*Observation.*—Separation of head of radius from capitellum, and of head of ulna from trochlea. Depression of ligaments into the joint space as a result of atmospheric pressure. Spontaneous restoration of all parts to their normal places immediately upon being relieved from traction force. Subluxation not produced.

Experiment No. 2.—Same arm. All muscles cleanly removed. Repeated traction upon radius and humerus with bones of arm in various positions.

*Observation.*—Same as in Experiment No. 1.

Experiment No. 3.—Right arm of fourteen-months-old child. All muscles of arm removed with exception of biceps. Simultaneous traction upon radius and humerus.

*Observation.*—Separation of articular surfaces of radius and ulna from capitellum and trochlea. Depression of ligaments into joint space. Sudden slipping of loop of orbicular ligament over head of radius and into joint space between radial head and capitellum. Orbicular loop remains interposed between radial head and capitellum when traction force is discontinued. Articular surfaces of ulnar head and trochlea remain slightly separated, because of the ligamentous wedge made by the orbicular loop between radial head and capitellum. Subluxation produced. Slight apparent deformity. Clicking sound produced by rocking articular surfaces of ulna and humerus together. Joint movements almost perfect. Flexion limited slightly but decidedly in the last few degrees of range. Reduction difficult, but finally accomplished by rotating radius into pronation position and pressing joint surfaces together at the same time. Sudden reduction with an audible snap. Restoration of all parts involved to their normal positions. Orbicular ligament appears to be more loosely attached to surroundings than before, and undoubtedly because of minute rupture of its loose connective-tissue attachments.

Experiment No. 4.—Same arm. Radius and ulna held in my left hand, and humerus in my right hand. Extended or partially flexed position of elbow of specimen. Pressure with my thumb on outer surface of head of radius, forcing it slightly away from capitellum and inward toward ulna.

*Observation.*—Subluxation of radial head in the same anatomical way as when traction force was applied in long axis of radius.

Experiment No. 5.—Same arm. Subluxation reduced. Biceps muscle put upon the stretch in its normal axis of traction. Efforts then made to produce subluxation by traction upon radius and humerus with my hands, and by pressure upon outer surface of head of radius with my thumbs.

*Observation.*—It is at once apparent that subluxation of the head of the radius can not be produced by any mechanism while the biceps muscle is at work.

Experiment No. 6.—Left arm of four-months-old child again taken up, and the subluxation successfully produced after more violent movements of traction, and of outer side pressure, than I had at first applied.

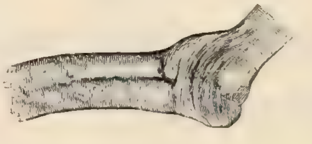

Fig. 1.

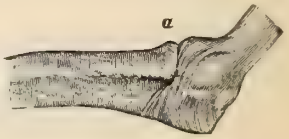

Fig. 2.

Fig. 1. Left elbow of four-months-old child. All ligaments in normal position. (Photograph by Bostwick.)

Fig. 2. Left elbow of four-months-old child. Orbicular ligament slipped over head of radius and into joint space, *a*, as a result of longitudinal traction upon radius and humerus simultaneously. No ligament ruptured. (Photograph by Bostwick.)

Experiment No. 7.—Right arm of four-months-old child. All muscles removed except brachialis anticus and supinator brevis. Simultaneous traction upon radius and humerus produced subluxation of head of radius, and a few fibers of both of the muscles were drawn down into the joint space between radial head and capitellum along with the orbicular ligament and a part of the anterior ligament. Subluxation reduced most easily by strong pronation of radius, very slight flexion of elbow, and upward pressure in long axis of radius.

As reduction of subluxation of the head of the radius is supposed to occur spontaneously after a few days in most cases, it seemed to me that such reduction could take place only as a result of synovitis with increase of synovial fluid and a consequent forcing of the orbicular ligament out of the joint space. To prove this theory I made the following trial:

Experiment No. 8.—Right arm of four-months-old child. Subluxation produced. Injection into the joint cavity of about forty minims of water through a hypodermic needle.

*Observation.*—Tension of capsule. Quick and strong flexion of forearm upon arm and pronation of forearm. Orbicular ligament hopelessly locked within the joint space between radial head and capitellum—"and that's what became of my theory."

Experiment No. 9.—Left arm of fourteen-months-old child. Muscles dissected away from each other, but not removed. Attempts at producing subluxation by pressure with the thumbs upon outer surface of head of radius resulted in ordinary luxation of head of radius forward. Head of radius tore through anterior ligament above orbicular ligament.

### Conclusions.

1. Subluxation of the head of the radius consists in a separation of the head of the radius from the capitellum by the interposition between them of the loop of the orbicular ligament, accompanied in some cases by a small portion of the anterior ligament of the elbow, and some fibers of the brachialis anticus and supinator brevis muscles.

The articular surfaces of the head of the ulna and of the trochlea remain slightly separated at the same time because of the wedge of orbicular ligament between the head of the radius and the capitellum. Passive movements of the joint give rise to clicking sounds caused by the rocking together of the separated ulnar and humeral articular surfaces.

There is no appreciable deformity on inspection or palpation, but the range of flexion of the forearm upon the arm is slightly limited.

2. The accident occurs at an instant when the biceps muscle is relaxed and as a result of direct traction force upon the radius while the forearm is in a position of partial or complete supination. It also occurs under the same anatomical conditions when force is applied directly to the outer side of the elbow, forcing the head of the radius inward and a little downward from the humerus.

The former mechanism is brought into play when a child led by the hand stumbles and falls, its hand remaining grasped in the hand of the nurse. The latter mechanism is brought into play when in a violent fall the outer side of the elbow strikes the curb-stone.

3. The mechanism of spontaneous reduction has not been determined, but it may, perhaps, occur as a result of swelling of the pinched ligaments and muscular fibers and a consequent pulling of the pinched tissues up and out.

4. Reduction may be accomplished by the surgeon as a result of various movements which tend to work the head of the radius back under the loop of orbicular ligament, and the most frequently successful movement seems to be pronation and pressure upward along the long axis of the radius, the arm being at the time completely extended. A quick snap gives evidence of reduction.

5. In treating cases in which reduction can not be accomplished by the surgeon, the arm should be fixed in a position of nearly complete extension, as this gives the loop of orbicular ligament the best opportunity for escape according to the testimony of my small number of specimens.

I suspect that there are about the country a great many cases in which reduction has never taken place, the surgeon's efforts having been unsuccessful and spontaneous reduction having been impossible.

6. The muscular disability of the arm during the early days of the injury is apparent rather than real, as I have demonstrated upon a patient—a young lady—since Dr. Van Arsdale's paper was read. Because of the pain consequent upon any movements at the elbow joint, the patient could with difficulty be persuaded to move the arm at all, but movement once begun, she could carry the forearm through almost its complete range of motion.

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## A REMARK ON THE OPERATIVE TREATMENT OF HÆMORRHOIDS.

By S. S. TURNER, M. D.,
ACTING ASSISTANT SURGEON, U. S. ARMY.

Any one who has taken a deep interest in the recent literature upon the subject of the operative treatment of hæmorrhoids, and has at the same time elicited, as far as practicable, the current views of general practitioners upon the subject, must be convinced that the vexed question is by no means settled for the profession at large.

My attention is drawn to the subject at this time by the article of Surgeon Brown, U. S. A. (retired), in the Journal of May 18, 1889, but it is not my purpose to take part in the controversy between Dr. Kelsey and Mr. Whitehead which is therein discussed, further than to make two statements, preliminary to some remarks upon a mode of treatment which Dr. Kelsey has practically abandoned, for reasons which I will concede to be sufficient from the standpoint of a busy specialist. These statements are:

1. That Mr. Whitehead's operation is so self-evidently "bloody, tedious, and difficult" that no general practitioner and few specialists will care to undertake it. No amount of assertion by Mr. Whitehead in favor of its simplicity will deceive any one who has studied anatomy.

2. It did not require the recent writings of Dr. Kelsey, nor the article of Surgeon Brown, to convince the writer that the clamp and cautery was the simplest and best of all operations for the busy specialist, and by implication the best for his patients. I concede it to be the quickest, simplest, least painful, and most efficacious of the operations for removal.

But back of all this there is a great practical question which concerns the great body of practitioners. No fact is better known to the profession than that nearly all men, doctors not excepted, will suffer from hæmorrhoids more than the pain and inconvenience of a thousand operations, rather than undergo an operation for removal by any of the methods in vogue. The fame of some specialist who is distant enough to "lend enchantment to the view" will generally induce people of large means, when life has become something of a burden, to place themselves under his care and take what he offers. But, unfortunately, piles are by no means limited to people of large means. The greatest number of sufferers must take what the general practitioner can give, and will not take the cutting or crushing operations until compelled by dire necessity, and are only too glad of a less heroic alternative which offers them hope of relief.

For this great body of sufferers the operation by carbolic-acid injection offers a means of relief to which they will readily submit, which is reasonably certain of success with proper care, and which every qualified practitioner should be able to apply.

It is my belief that the method deserves all that Dr. Kelsey said in its favor before the conditions of his practice rendered the clamp and cautery so much more fascinating. In severe cases it requires patience and perseverance, but, if practiced with due care, I can not see why the liability to subsequent attacks should be any greater than if the tumors were removed. The destruction of a tumor by either process offers no absolute guarantee that a tumor will not form in some other part of the hæmorrhoidal region.

I can not claim the experience with carbolic acid which it is evident that Dr. Kelsey enjoyed. But in a trial of the remedy in a sufficient number and variety of cases to justify me in having an opinion upon the question of its merits, I have never met with anything which I regretted. My practice has been to inject ten minims of a four-grain solution of cocaine before injecting the acid, and in no case has severe pain been complained of at the time or subsequently. In one exceptionally bad case, in a gentleman rendered very nervous by suffering, I used opium suppositories as a precaution, and can not say what the result would have been without that precaution. In his case one large mass was removed with the écraseur and the remaining tumors were injected, and all did well.

The strongest solution I have used is one part of acid to two of glycerin, and this has often caused the part reached by the acid to slough, a circumstance which I have thought rather favorable than otherwise. The cavity heals readily by granulation, and there has been no hæmorrhage in any case beyond a slight oozing for a brief period. A solution of one to five has not caused a slough, in my experience. I have not met with any cystic trouble in any case.

My conclusion is this: That while, from a strictly surgical standpoint, the clamp-and-cautery operation is the mode *par excellence* of removal, there is a wider field for the carbolic-acid method than for any other among general practitioners, and that its merits, which are beyond question in my mind, entitle it to a more general application than it has thus far received.

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## THE COLONIZATION OF THE INSANE.

For several weeks past the Chicago newspapers have contained accounts of the grossest mismanagement in the Cook County, Illinois, asylum for the insane. The papers describe the asylum as having been in a most filthy condition, and the inmates as having been grossly maltreated, one patient having died apparently of injuries received from brutal attendants appointed by political influence, not on account of fitness for their positions. The asylum in question is under the management of the Cook County Board of Commissioners, who are politicians first and last. In the investigation of the asylum mismanagement before the county judge it has been recommended that the present asylum be abandoned and a new one built. This would be but a short and false step in the right direction. The superintendent has been summarily dismissed. The board of politicians that placed him in power has displaced him, and is now looking for "a competent scientific man" who will take the political job, at the risk of being turned out in a few months, at $3,500 a year.

Chicago and Cook County need, or soon will need, adequate provision for two thousand insane persons. If provision is to be made now, as it should be, why not set about the work in the proper manner? And does the civilized world know of any better method of providing for the insane than by placing them in colonies. Careful reading of Mr. William P. Letchworth's book on "The Insane in Foreign Countries" seems to show that colonization of the insane fulfills all the requirements better than any other method of caring for them. The reader will probably think of the colony of Gheel in this connection. But one must conclude from Mr. Letchworth's book that this colony is of but little practical value to Americans except as showing the amount of freedom that is possible in an asylum for the insane. The faults and disadvantages of the Gheel system are many, great, and obvious. As compared with the systems of Fitz-James and Alt-Scherbitz, Gheel, according to Mr. Letchworth, may be counted almost as a failure as a place for caring for the insane. We have heard a great deal of the colony of Gheel and very little of the colonies of Fitz-James (and Villers) and Alt-Scherbitz. Having no colonies for the insane in America, our notions of such colonies are somewhat confused. In thinking of the agricultural part of such colonies we are likely to overlook many important matters concerning the central asylums and the labor other than agricultural. Naturally, the central asylum of a colony is a most important part of such an institution. The central asylum of the colonies of Fitz-James and Villers is defective in some respects, and is inferior to the central asylum at Alt-Scherbitz, which provides for part of the insane of Saxony.

A county or State having to provide accommodation for the insane could not do better than to send special commissioners abroad to study the systems in successful operation at Fitz-James and Alt-Scherbitz. There may be found free and natural conditions of life and good judgment and delicate tact displayed in adjusting the employments to the experience, tastes, aptitudes, physical capacity, and mental condition of the insane. Restraint on the part of attendants and violence on the part of either attendants or patients are practically unknown at these places. The more natural the life of the insane, without the exciting influences of home and business, the more hope is there of cure. Without occupation even a sane person can not be expected to remain sane for any length of time. Even for the chronic insane outdoor employment is of great value, as is attested by Dr. Francis, of St. Andrew's Asylum at Northampton. He says that "a chronic lunatic of the worst type—turbulent, noisy, destructive, treacherous, violent, faulty in habits, an inveterate nuisance—shows marked improvement after a few months of steady work. Sleeplessness which drugs have failed to influence yields to healthy fatigue." The English Commissioners of Lunacy have for some years laid special stress on the importance of occupation. As a violent male lunatic becomes calmer while digging in the earth, the violent female is rendered calmer by the exertion of hand washing; washing machines should be left to the more quiet. Occupation, labor, is more beneficial than amusement, and is suitable for a larger number of patients. One would scarcely volunteer as umpire in a game of base-ball played by lunatics, since the position is unsafe even when the game is played by the (apparently) sane. An acute maniac may expend his energy to advantage on a stone-pile, but in a game of foot-ball it might be misdirected.

The colony system offers a greater variety of employment than the asylum system, and it gives more fresh air and more sunshine. In the long run it is as cheap, if not cheaper; and there are more chances for the patients' recovery. To shut insane people up in a huge building, without adequate or sufficiently diversified labor, is not only cruel and unreasonable, but bad therapeutics. A garden or a farm of a few acres can not furnish employment for several hundred insane people. The colony of Fitz-James has about two thousand acres of farming land; Alt-Scherbitz has more than seven hundred acres. As a general rule, it may be said that there should be about an acre to each patient to be accommodated. With the number of acres tilled at Fitz-James, agriculture is by no means the only industry, but in the colony there are two flouring-mills, a forge, a machine-shop, a bakery, a dairy, and other means of employment.

The English and Scotch systems of caring for the insane are good; but the reader of Mr. Letchworth's book is forced to the conclusion that they would be better if combined with the whole system of Alt-Scherbitz and the colony system of Fitz-James.

# *MINOR PARAGRAPHS.*

## THE OUTLOOK AS TO YELLOW FEVER.

A TELEGRAM from Montgomery, Ala., announces the return of Dr. Jerome Cochran, the State Health Officer, from a visit to Cuba and Florida, to which places he went in order to study the yellow-fever situation. He reports that he found the fever to be only moderately developed at Havana, and that in Florida there had been no cases since the April case at Sanford. There seems to be a good prospect that Florida will escape an epidemic this year, provided there has been no systematic concealment of the disease, and no fresh importation of it takes place along the Tampa Bay route. Dr. Cochran's high standing as an authority in public-health matters is well known throughout the South, and his favorable views of the situation in Florida can not fail to inspire confidence, or hopefulness, at least. The feeling among sanitarians generally has been that there would be a return of the fever, or a re-importation of it at some Southern port, during the coming summer, and some have named June as the month of its reappearance. This feeling has been chiefly based upon the knowledge that in Florida there has been, until very lately, a loose and defective sanitary administration for the State at large, and that there has been a great deal of labor imposed upon the newly organized State board, to be done in a very short time. We have the knowledge, also, that the fever has not been absent from its old fields in Cuba, and has been especially prevalent and virulent in Brazil. Rio and Santos, in the latter country, have had the most serious epidemic of fever that they have seen for years, and their close commercial relations with this country have been, and are still, a possible source of the renewal of epidemic trouble here. At Vera Cruz, also, the fever has been unusually prevalent. What with our own infected soil, due to last year's pestilence, and with two or more dangerous neighbors to the south of us, we shall have unmistakable cause for congratulation if the fever passes us by unscathed during the summer on which we have entered.

## BROMOMANIA.

THE "Lancet" for May 25th points out some of the evil effects that follow the excessive use of the bromides by epileptics. In many cases the patients become wild and maniacal from the prolonged use of the drug, and in the asylums this condition is well recognized under the title of bromomania. In former times the same class of persons continued along about the same from year to year and did not require to be sent away to the asylums. This was before the bromides became the routine means of treatment in epilepsy at all the various dispensaries and out-patient departments. It is at those institutions, the "Lancet" fears, that much damage is done "by the drenching of the epileptics with the bromides." Then too many of these patients will go from one dispensary to another, and thus get loaded with an amount of bromide preparations that is far in excess of the intent, knowledge, or conjecture of the respective prescribers. When, therefore, a practitioner finds that any of his epileptic clients give indications of an increase of excitability and violence, it will be well to investigate into the amount of their drug-consumption; it may be the invasion of bromomania.

## AN ACCESSORY THYREOID GLAND IN THE TONGUE.

SUCH a formation is said to have constituted a tumor that Dr. Wolf, of Hamburg, lately found it necessary to remove from the tongue of a young woman who was otherwise healthy, but had been annoyed with the tumor for six years. An account of the case was given by Dr. Wolf at the eighteenth congress of the German Society of Surgery, held at Berlin in April, and reported in the "Deutsche Medizinal-Zeitung." The mass occupied the left half of the base of the tongue, extending well into the pharynx, and being of a different color from the rest of the tongue. At first it seemed to yield to local and general treatment with iodine, but it afterward increased in size to such a degree as to call for excision. The girl made a satisfactory recovery.

### THE MEDICAL SITUATION AT JOHNSTOWN.

The progress of recuperation in the localities visited by the June flood has been slow, but on the whole satisfactory. A paralysis of every form of business and activity might well have succeeded to the terrible shock of the disaster, but it has been only temporary. The condition of the weather has, in general, been favorable to outdoor work, and the people have been spared the shocking sights and conditions which a higher temperature and more rapid decomposition would have occasioned. The sick and wounded are now chiefly those who have been employed as laborers; the citizens do not form a large proportion of those who apply to the relief organizations about Johnstown. Surgeon-General John B. Hamilton, of the Marine-Hospital Service, reports to the President that there is no lack of medical assistance. He says: "There are some twenty physicians surviving, ten of whom are able to work, but no more are needed; it would be a relief if many of those who have come from a distance would go away." He is reported to have said that ten days more of systematic work would clear up the surface of the greater part of the town. Infectious disease does not exist, beyond a few cases of measles of a mild type. A hospital for infectious cases, however, has been established, lest it may be needed. In regard to the losses sustained by members of the medical profession, it is stated that twenty lost all their property, but that aid is now at hand sufficient to provide against all pressing needs. The College of Physicians of Philadelphia and the Philadelphia County Medical Society united in sending representatives with $2,000 for the immediate relief of the families of medical men; and more money is to follow as it may be required. The State Medical Society has also appropriated $1,000 to go in the same direction.

### THE TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

From the "Albany Medical Annals" for May we learn that the "Transactions" for 1889 will soon appear. The "Annals" further states that the volume has been got up by a Philadelphia printer, and that the typography of the book will be superior to that of any of its predecessors. The recent issues of the "Transactions" have had a cheap appearance, not only in typography but in regard to their paper, illustrations, and binding—in fact, they have been inferior to nearly all the yearly volumes of the great State organizations.

### HONORS TO DR. JOHN S. BILLINGS.

Dr. Billings, of the army, sailed for Europe on Wednesday, June 12th, in company with a number of physicians, some of whom are delegates to the Leeds meeting of the British Medical Association, to be held in August. It has been announced that Oxford University will confer on Major Billings an honorary doctorate in consideration of his many labors on behalf of the Johns Hopkins University, the Army Museum, and the "Index-Catalogue." The general orders of the Surgeon-General of May 13th, which contemplated the attendance of Dr. Billings, as the representative of the medical department of the army, at the American Medical Association's meeting at Newport, have probably been recalled to enable him to receive his new distinction in person. It is only a short time ago that the telegraph informed us of the bestowal upon Dr. Billings of an honorary doctorate in medicine by the University of Munich, conferred upon him in recognition of his work as a sanitarian. In the last issue of this journal was published the Surgeon-General's authorization to Major Billings to participate actively in the work of the forthcoming Federal census. This assignment to special duty with the Census Bureau is without doubt a high honor, but it is also an onerous addition to a career that knows few idle hours.

### ITEMS, ETC.

**The American Climatological Association.**—The programme for the sixth annual meeting, to be held in Boston on Monday and Tuesday of next week, includes an address on "Comparative Results in Ninety Cases of Pleurisy, with special reference to the Development of Phthisis Pulmonalis," by the president, Dr. V. Y. Bowditch, of Boston; "A Study of the Summer Climate of the Massachusetts Coast," by D. W. D. Hodges, of Boston; "Reports of Cases of Acute Miliary Tuberculosis," by Dr. J. C. Munro, of Boston; "The Mortality of Acute Lobar Pneumonia," by Dr. C. W. Townshend and Dr. A. Coolidge, Jr., of Boston; "Consumption as I have known it," by Dr. E. P. Hurd, of Newburyport, Mass.; "The Influence of Climate and Season upon Normal and Abnormal Manifestations of Nervous Activity," by Dr. Walter Platt, of Baltimore; "The Basis of Rational Climatotherapy," by Dr. G. E. Abbott, of Bryn Mawr, Pa.; "Ocean Therapy," by Dr. A. L. Gihon, of the navy; "The Vital Statistics of Two Thousand Persons in an Ocean Atmosphere," by Dr. A. N. Bell, of New York; "The Psychological Factor in selecting a Climate for Invalids," by Dr. E. O. Otis, of Boston; "The Wakefulness of Neurasthenia as affected by a Residence at the Seaside," by Dr. W. H. Daly, of Pittsburgh, Pa.; "The Relations of Sandy Soil and Pine Forests to Pulmonary Phthisis, with special reference to the Pine Belt of New Jersey," by Dr. I. H. Platt, of Lakewood, N. J.; "Open-air Travel as a Cure and Preventive of Consumption, as illustrated in the History of a New England Family," by Dr. H. I. Bowditch, of Boston; "Rest and Exercise in Diseases of the Heart," by Dr. A. L. Loomis, of New York; a discussion on "Hæmoptysis from Chronic Pulmonary Disease," by Dr. G. M. Garland, of Boston, Dr. J. T. Whittaker, of Cincinnati, and Dr. R. G. Curtin and Dr. J. B. Walker, of Philadelphia; "Remarks on the Treatment of Pulmonary Phthisis," by Dr. J. C. Wilson, of Philadelphia; "Some Observations on the Causation and Treatment of Asthma," by Dr. Beverley Robinson, of New York; "The Climatic Treatment of Bronchial Asthma," by Dr. F. I. Knight, of Boston; "Institutions for the Treatment of Pulmonary Consumption," by Dr. P. H. Kretzschmar, of Brooklyn; "The Mineral Springs of Colorado," by Dr. C. Dennison, of Colorado; "The Climate of New Mexico," by Dr. R. M. Longwell, of Santa Fé; "Notes on the Prevalence of Diphtheria at High Altitudes," by Dr. S. H. Chapman, of New Haven; and "An Unusual Type of Pulmonary Disease occurring in the Central Mississippi Valley," by Dr. W. C. Glasgow, of St. Louis.

**Recent Deaths.**—Dr. John Eckert Shaffer died at Elizabeth, Pa., on May 31st, in his sixty-ninth year. He was born at Washington, Pa., and graduated in arts at the college in that town in 1840. He was admitted to the bar in Virginia in 1842, but very soon abandoned law for medicine, taking his medical degree at the University of Pennsylvania in 1845. He settled in Elizabeth and lived there for over forty years. He was appointed postmaster of the town by President Lincoln, and was prominent in every public improvement in his community. He was the local historian, keeping a daily record of meteorology and of the important events and conditions observed by him.

Dr. A. B. Ashworth, of Atlanta, Ga., died suddenly on May 18th, at the age of twenty-four years. He was a graduate of the Atlanta Medical College, in the class of 1886. In 1887 he was made the secretary of the Medical Association of Georgia and managing editor of the "Medical and Surgical Journal," succeeding the late Dr. James A. Gray in both those positions, and, like Dr. Gray, living only a year or two in the incumbency of them.

Dr. J. O. Owen, of Pendleton, S. C., met with death by violence on June 3d, having been shot, as is alleged, by his stepson, a youth of about eighteen years. Dr. Owen was a graduate of the Atlanta College of Medicine and Surgery, and had been a practitioner in Anderson County for five years.

Dr. Edward Mortimer Deey, formerly of New York, died at Limpley Stoke, near Bath, England, on January 3d. He was an alumnus of the New York Medical College, of the class of 1856.

**The New York Hospital Library.**—At the last meeting of the board of governors of the hospital a fine portrait of the esteemed librarian, Dr. John L. Vandervoort, was presented to the board by Dr. George L. Peabody, who originated the movement among the friends of the institution to procure the portrait. It is a life-sized oil painting by Rhees, and as a likeness it is striking. It occupies a conspicuous place in the rooms of the library. In his remarks 'on the occasion of presenting the portrait Dr. Peabody spoke highly of the services of Dr. Vandervoort, who began his duties as librarian over fifty years ago. At the same meeting Mr. J. H. Vandervoort was appointed assistant librarian.

**A Medical Course at Worcester, Mass.**—The Clark University, at Worcester, has recently issued a prospectus of medical studies, other than clinical, to be taught at that institution. It offers "special facilities in those fundamental disciplines upon which the study of medicine, in all its departments, now rests," such as chemistry, biology, anatomy, physiology, and neurology. The character of the diploma which will be granted to students who successfully follow this course is not stated, since the prospectus admits that "the purely scientific part of a medical education" is what is offered, clinical demonstrations being absent. A certificate of proficiency in the "fundamental disciplines" will be the best diploma that can issue under the existing facilities.

**The Marine-Hospital Service.**—At the recent session of the examining board, held in Washington, twenty-seven candidates were examined, of whom four were successful: Dr. Groenevald, of Louisiana; Dr. Young, of Virginia; Dr. Stemson, of Maryland; and Dr. Brown, of Virginia. There is now only one vacancy.

**The Yale Medical Society, of New Haven.**—On Tuesday of next week Dr. Horatio C. Wood, of Philadelphia, will give the annual address in medicine, and in the evening a reception in Dr. Wood's honor will be held at Dr. C. A. Lindsley's house.

**The State Board of Health of North Carolina.**—The Governor of North Carolina has made the following appointments in the State Board of Health: Dr. J. H. Tucker, of Henderson, the Hon. J. L. Ludlow, of Winston (both reappointed), and Professor F. P. Venable, of the University; term of office, two years. By the State Medical Society's choice, two physicians become members of the board for a term of six years, namely: Dr. J. A. Hodges, of Fayetteville, and Dr. Julian M. Baker, of Tarboro. The honored secretary, Dr. Thomas F. Wood, of Wilmington, editor of the "North Carolina Medical Journal," is continued in that position, held by him since the organization in 1885.

**Epidemic Disease in Brazil.**—The cities of Rio and Santos are afflicted with both small-pox and yellow fever. The fever has extended from Rio back into the country, along the avenues of traffic, for two hundred miles, and the type of the epidemic is said to be unusually virulent. At Santos the mortality has been appalling; some unofficial figures have been given which would correspond to an annual death-rate of over 600 in a 1,000; and that, too, in a city whose normal population has been greatly reduced by the flight of hundreds who have had the means to get away.

**The Sanitary Institute of Great Britain.**—The Hon. G. W. Hastings, Member of Parliament for Worcestershire, has recently been elected to the presidency of the Sanitary Institute of Great Britain, which will hold its next annual congress at Worcester on September 24th.

**A Female Pathologist.**—The oldest of the universities, says "Harper's Weekly," has made one of the newest of the new departures, for at the University of Bologna there has arisen a young lady, Dr. Giuseppina Cattani, lecturer on pathology, who has made a decided sensation as being both beautiful and profound.

**The Mexican Academy of Medicine.**—Dr. Prince A. Morrow, of New York, has been elected a corresponding member of the Academy.

**The Cartwright Prize** for 1889 has been awarded to Dr. Hobart A. Hare and Dr. Edward Martin, of Philadelphia, for an essay entitled "Practical Studies on the Nervous and Mechanical Government of Respiration."

**Change of Address.**—Dr. William C. Jarvis, to No. 142 Madison Avenue.

**A Boarding-House for Medical Students in Vienna.**—Frau Müller von Wandau, who keeps a boarding-house in Vienna, at ix, Türkenstrasse, 4, states in her circular that the house is situated near the principal Poliklinik and hospital, that it affords great facilities for conversation in German, and that it furnishes the greatest comforts at the most reasonable rates. A correspondent well known to the profession writes to us in corroboration of these statements and recommending the house very highly.

**Army Intelligence.**—*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 9 to June 15, 1889:*

By direction of the Acting Secretary of War, the following changes in the stations of officers of the Medical Department are ordered: HARTSUFF, ALBERT, Major and Surgeon is relieved from duty at Fort Hamilton, N. Y., and ordered to Fort Omaha, Neb.; BROWN, J. M., Major and Surgeon, relieved from duty at Fort Omaha, Neb., and ordered to Fort Meade, Dakota; SHANNON, W. C., Captain and Assistant Surgeon, relieved from Fort Meade, Dakota, and ordered to Fort Yates, Dakota; IVES, FRANCIS J., First Lieutenant and Assistant Surgeon, relieved from duty at Fort D. A. Russell, Wyoming, and ordered to Fort Lyons, Colorado; PHILIPS, J. L., Captain and Assistant Surgeon, relieved from duty at Fort Lyon, Colorado, and ordered to Fort Crawford, Colorado; MCCAW, WALTER D., First Lieutenant and Assistant Surgeon, relieved from duty at Fort Crawford, Colorado, and ordered to Fort McPherson, Atlanta, Ga. Par. 9, S. O. 136, A. G. O., Washington, D. C., June 13, 1889.

Gibson, Robert J., Captain and Assistant Surgeon (Fort Trumbull, Conn.), is designated as medical officer for the encampment at Fisher's Island, N. Y., and he will proceed to Fisher's Island, N. Y., August 1, 1889, and report to the commanding officer for duty at that post. Par. 5, S. O. 133, Headquarters Division of the Atlantic, June 13, 1889.

Gandy, Charles M., Captain and Assistant Surgeon, upon the abandonment of the post of Fort Concho, Texas, will report in person to the commanding officer, Fort Clark, Texas, for duty at that station, to relieve First Lieutenant Ogden Rafferty, Assistant Surgeon, reporting also by letter to the commanding general, Department of Texas.

Rafferty, Ogden, First Lieutenant and Assistant Surgeon, on being relieved by Captain Gandy, will report for duty to the commanding officer, San Antonio, Texas, reporting also by letter to the commanding general, Department of Texas. Par. 7, S. O. 133, A. G. O., Washington, June 10, 1889.

Wales, Philip G., First Lieutenant and Assistant Surgeon (recently appointed), will, by direction of the Acting Secretary of War, proceed from this city to the Presidio of San Francisco, Cal., and report for duty to the commanding officer of that post, reporting also by letter to the commanding general, Division of the Pacific and Department of California. Par. 3, S. O. 132, A. G. O., June 8, 1889.

**Naval Intelligence.**—*Official List of Changes in the Medical Corps of the United States Navy for the week ending June 15, 1889:*

Norton, O. D., Assistant Surgeon. Ordered to the Naval Hospital, Chelsea, Mass.

Hall, J. H., Passed Assistant Surgeon. Detached from the Naval Hospital, Washington, D. C., and granted six months' leave to go abroad.

Lewis, D. O., Passed Assistant Surgeon. Detached from the Naval Academy and ordered to the Naval Hospital, Washington, D. C.

Bright, George A., Surgeon. Detached from the Navy Yard, Norfolk, Va., to wait orders.

Marmion, R. A., Surgeon. Detached from the Receiving Ship Franklin and ordered to the Navy Yard, Norfolk.

Bertolette, D. N., Surgeon. Ordered to the Receiving Ship Franklin.

Kidder, B. H , Medical Inspector. Ordered to the Naval Academy, Annapolis, Md.

Walton, T. C., Medical Inspector. Detached from the Naval Academy and ordered to the U. S. Steamer Chicago.

Beyer, H. G., Passed Assistant Surgeon. Ordered to the Training Ship Portsmouth.

**Society Meetings for the Coming Week:**

Monday, *June 24th:* American Climatological Association (first day—Boston); Medical Society of the County of New York; Boston Society for Medical Improvement; Cambridge, Mass., Society for Medical Improvement; Baltimore Medical Association.

Tuesday, *June 25th:* American Medical Association (first day—Newport); American Climatological Association (second day); Buffalo Obstetrical Society (private); Medical Societies of the Counties of Essex (annual—Elizabethtown) and Lewis (annual), N. Y.: Yale Medical Society, New Haven.

Wednesday, *June 26th:* American Medical Association (second day); Medical Society of the County of Albany, N. Y.; Auburn, N. Y., City Medical Association; Berkshire, Mass., District Medical Society (Pittsfield).

Thursday, *June 27th:* Vermont State Medical Society (Brattleboro'); American Medical Association (third day); New York Orthopædic Society; Cumberland, Me., County Medical Society (Portland).

Friday, *June 28th:* American Medical Association (fourth day); New York Society of German Physicians; Philadelphia Clinical Society; Philadelphia Laryngological Society.

## Letters to the Editor.

### SUSPENSION IN THE TREATMENT OF LOCOMOTOR ATAXIA

Cincinnati, *May 29, 1889.*

*To the Editor of the New York Medical Journal:*

Sir: Dr. Hammond, in concluding his article in your Journal, speaks of having more recently modified the original method by dispensing altogether with the arm supports, applying the force to the head and neck. I began this same method of treatment on the 10th of March last. Whether or no this antedates the doctor's treatment I can not say. After suspending my first patient three or four times by the arms at Max Wocher's, one of the leading instrument-makers in the city, it occurred to me that very much more benefit might be derived by applying the force higher up. I thereupon directed them to remove the arm supports and with every care and precaution to suspend the body by the occiput and chin. This treatment has been continued ever since with an occasional return to the arm supports. There can, I think, be no question as to the utility of this method over the old. If the benefits to be derived from this treatment are purely mechanical, that of stretching the cord and breaking up old adhesions, then it must be conceded that the higher up the force is applied the greater the traction on the parts below. Care, of course, should be exercised in every case in adjusting the chin-rest and the strap to the occiput; the pressure should be distributed as uniformly as possible.

W. H. DeWitt, M. D.,

*Late Physician to the Cincinnati Hospital and to Longview Asylum for the Insane.*

## Proceedings of Societies.

### NEW YORK SURGICAL SOCIETY.

*Meeting of March 27, 1889.*

Dr. Charles K. Briddon in the Chair.

**Operation for Epispadias.**—Dr. Willy Meyer presented a boy, aged thirteen, on whom he had operated for epispadias In the beginning of April, 1888, the patient had been admitted into the German Hospital in a deplorable condition. There was an ulcerative eczema, which covered the scrotum, hips, and buttocks, and the urine was constantly dribbling from him, as the vesical sphincter was insufficient. Another surgeon had tried before to cover the urethral groove by a plastic operation, a flap being taken from the lower portion of the abdomen, and to establish an artificial urethral fistula leading straight into the bladder, just below the malformation of the prepuce, hoping thus to effect an easier withdrawal of the urine into the urinal which the boy had been compelled to wear. The latter result had been accomplished, but the urine had continued to pass as before.

By a number of plastic operations the speaker had succeeded in forming an artificial urethral canal, the material or tissue used being taken partially from the prepuce, which had been first transplanted to the upper surface of the penis, above the glans, by Dr. Lange, then attending. Dr. Lange had also performed median section for permanent drainage of the bladder. The vesical fistula mentioned above was also closed by a plastic operation, a very good result having been attained by the use of the continuous buried catgut suture, supported by plate sutures. To-day the boy was able to hold his urine for an hour longer. The capacity of the bladder was nearly three ounces. If the bladder was overdistended, there was leakage on account of the congenital insufficiency of the sphincter. During the night the patient got up two or three times, and the penis remained dry. At the point of the so-called infundibulum and at the vesical fistula small diverticula had developed. They had to be pressed out at the end of each micturition, as they always retained some urine. To their presence was also due the obstinacy of the slight catarrh of the bladder, which was still under treatment. The speaker was now stretching the bladder by frequent injections to increase its capacity, and hoped to obtain perfect continence by the application of a truss-like apparatus.

**Gastro-enterostomy for Cancer of the Stomach.**—Dr. Meyer also presented a specimen showing the stomach and a portion of the jejunum from a patient, fifty-two years of age, on whom he had performed gastro-enterostomy for cancer of the stomach, on December 31, 1888. The artificial anastomosis had been perfected by a continuous catgut suture, Senn's plates or Abbe's rings not being on hand. The parts having been replaced, the abdominal wound had been closed by separate continuous catgut sutures of the peritonæum and skin, and silk-worm plate sutures passed through the abdominal wall, including the peritonæum.

The patient had done very well during the first four days, there being a shallow, painless abdomen, no vomiting, a good strong pulse, and a temperature not exceeding 101·5° F. He had been given small doses of laudanum, and fed by nutritive enemata. On the fifth day ileus had set in, as was the rule after this operation if a portion of the small intestine somewhat distant from the pylorus happened to be attached to the stomach. (In this case the nearest coil had been raised from the true pelvis and attached, according to Luecke's advice.) At the same time the patient had become delirious and had jumped out of bed, his pulse being accelerated, but the temperature normal, and no tympanites present. During the following night, although both hands had been tied to the side of the bed, the patient had managed to get one hand under the dressing and had torn the wound open. The wound had probably been slightly separated before. The house surgeon, when summoned, immediately closed the abdominal wound again, but the patient died twelve hours afterward, with a temperature of 104° F. The speaker thought that the cause of the delirium had been iodoform poisoning, a very small amount of the powder having been sprinkled around the sutured wound of the intestinal tract.

The post-mortem examination had shown the existence of adhesions between the different coils of intestine which had been handled, but not a drop of pus. The stomach and jejunum had been found in firm union. The opening in the small intestine was situated ten inches above the middle point between the pylorus and the ileo-cæcal valve. The speaker believed that we should never rely on the separate sutures, even with the support of silk-worm plate sutures, in closing an abdominal incision above the umbilicus, and especially not in male subjects. The thread should pass through all the tissues at once, peritonæum included. Separate stitches might still be used to unite the peritonæum, fascia, and skin.

**Multiple Lipomata.**—Dr. Fred Kammerer presented a patient having a number of small tumors in the subcutaneous tissue scattered over his body in somewhat symmetrical situations on the two sides. One, situated on the outer aspect of the right upper extremity, he had excised or rather shelled out, and, subjecting it to microscopical examination, had found it to be a lipoma which was undergoing sarcomatous degeneration. The appearance of these growths seemed to be dependent on a neurotic condition comparable to multiple fibromata. Whether they began as mixed tumors, or as multiple lipomata which afterward degenerated, he could not say, as he had only examined one of them, which had been growing more rapidly of late and had given the patient discomfort, and had therefore been excised.

Dr. J. A. Wyeth spoke of recently having had a case in which there were twenty-nine tumors, scattered over the arms and legs and trunk, which were evidently lipomata.

The Chairman asked whether there had been any researches in regard to the tendency of such tumors to undergo malignant degeneration.

Dr. Kammerer replied that his attention had been called to one instance of this kind, published in a recent number of Virchow's "Archiv." A neuro-fibroma—one of many similar tumors on the body of the patient in question—situated in the popliteal space, had developed into a large sarcoma. But he knew of no other such instance.

Dr. A. G. Gerster wished to put upon record a case which had come under his hands a number of years before. The patient was a man of about fifty years, and a brewer by occupation. An increase of adipose tissue had taken place more or less over the whole posterior aspect of his body, and anteriorly on the thighs, and the masses of fat had been so distributed as to produce an appearance which gave one an impression that the patient had a number of large, symmetrical fatty tumors. One particularly large mass had been situated between the shoulder blades, and two others on either side of the neck behind, reaching to the middle part of the occiput. These three tumors had required operation on account of the discomfort which they gave the man when lying down. The central tumor proved to be as large as a grown child's head. It lacked the encapsulation usually seen in a lipoma, and its tissue blended imperceptibly with that surrounding it. In constitution also it differed markedly from a lipoma. In this tumor the fat occurred in small and dense masses between thick and dense planes of connective tissue regularly arranged. As the latter tissue was very vascular, the operation was a bloody one, and this, together with the strictly symmetrical structure of the tumor, made the case remarkable.

**Strangulated Umbilical Hernia; Operation for Relief of Strangulation and Radical Cure; Death.** (Reported by Dr. D. M. Marvin.)—The Chairman read the history of a case of this sort. The patient, Henry E., aged fifty-two, married, a German by birth and a cigarmaker by trade, entered the Presbyterian Hospital on March 10, 1889. He gave no rheumatic or specific history, and had used alcohol moderately. For the preceding seven years he had had an irreducible ventral hernia, which he had supported with a bandage. On March 10th, while sitting on a sofa, he had felt a sudden increase in the size of the tumor, attended with very severe and "sickening" pain. Two physicians were called in, who administered morphine hypodermatically, and attempted for twenty minutes to reduce the tumor by taxis, but without success. Warm applications were made, and nine hours afterward the ambulance was summoned, which brought the patient to the hospital.

On admission, he was found to be well nourished, with an excess of fat and no anæmia. Temperature 97·8° F., pulse 96, respiration 24. The urine showed no abnormity, and pain and other symptoms had been masked by the opium which the patient had received. Examination showed immediately to the left of the umbilicus a tumor four inches in diameter, which was tense, painful, dull on percussion, with the skin over it somewhat reddened and no impulse perceptible in it on coughing. A diagnosis of strangulated umbilical hernia was made, and Dr. Briddon, the attending surgeon, sent for. The patient's abdomen was shaved and lightly scrubbed with soap and water, then washed with a solution of bichloride of mercury (1 to 2,000), and with a solution of iodoform in ether.

Chloroform having been administered, an incision five inches long was made in the median line over the tumor. The sac was opened and found to contain a large quantity of omentum and a loop of intestine six inches in length and deeply congested. On dividing the constriction, the color of the intestine improved, and it was returned to the abdominal cavity. The omentum was quite firmly adherent to the sac, and the sac in places to the abdominal parietes. Ligatures of stout silk were placed around the omentum close to the transverse colon, and the omentum was cut away. The sac was then liberated from the surrounding tissues, ligated, and cut off. The ring, about an inch and a half in diameter, was closed with four silk sutures. Deep sutures were passed through the abdominal walls, including the peritonæum, with a Martin's needle, and followed by superficial sutures uniting the integument alone. The adipose tissue over the abdomen was two inches thick. A large antiseptic dressing was then applied and the patient put to bed. The omentum removed weighed eighteen ounces. The patient recovered from the anæsthetic without unpleasant symptoms, and suffered only moderately from shock. A third of a grain of morphine was administered hypodermatically and free stimulation with whisky employed. The patient then rested comfortably for the rest of the night.

On March 11th the temperature was 98·4° F., the pulse 104, small but with fairly good tension, the respiration 28, and the pupils somewhat contracted. In this condition the patient passed a comfortable day, but at 6 p. m. the temperature had risen to 101·4° F., the pulse had fallen to 102, while the respiration remained at 28. At the same time the patient complained of labored breathing and of pain in the right lumbar region, also of excessive thirst, which was somewhat relieved by cracked ice. The urine was free, and was normal on examination.

On March 12th the temperature was 101·2° F., the pulse 114, and the respiration 30 and entirely thoracic. The abdomen was tympanitic; the patient complained of dyspnœa and was bolstered up in bed; he was also very restless, with contracted pupils, anæmia, and clammy sweat covering the skin. Powdered opium, a fourth of a grain every two hours, was ordered for its stimulating effect on the heart. The patient was very restless all day, desired his pillows constantly changed, and complained much of pain in the right lumbar region. Tympanites grew more marked, and the pulse small and wiry. At 4 p. m. the temperature was 99·5° F., the pulse 110, and the respiration 30. At 6 p. m. the temperature had risen to 102° F. and the pulse to 114, while the respirations had fallen to 28.

On March 13th, after the continuance of this condition through the night, abdominal pain and tympanites became more and more pronounced, and the dyspnœa continued, the respirations ranging from 28 to 34, and the pulse from 108 to 120, being still wiry in character. In the twenty-four hours forty-eight ounces of urine had been passed, and it was normal on examination. At noon the temperature had been 101° F., the respiration was 30, and the pulse 120. At 4 p. m. the patient had begun to fail more rapidly, and a wandering delirium had set in, the respiration being 34, the pulse 88 and very feeble. Free stimulation with whisky was resorted to, and occasional doses of digitalis to relieve pulmonary œdema. The tympanites had become very marked. The patient continued to fail, and died at 7.20 p. m. An autopsy was not allowed.

The speaker added that this case illustrated the condition in which such patients were when they first came under the care of surgeons in our hospitals as a usual thing. The treatment which they had undergone previous to being brought to a hospital was usually the worst possible—heroic treatment by cathartics, persistent and forcible attempts at reduction by taxis, large doses of morphine, and, worst of all, delay. A large majority of his own operations had been followed by death where he had had such patients to treat.

**Rupture of the Intestine; Hæmorrhage; Laparotomy; Death.** (Reported by Dr. D. M. Marvin.)—The Chairman also read the history of a case of this sort. Ernest S., aged thirty-nine years, a native of Germany, married, and a laborer by occupation, was admitted into the Presbyterian Hospital on March 12, 1889, and gave no history of syphilis or of rheumatic taint; he had used alcohol moderately. On the morning of that day he had been leading a team of horses hitched to a Fifth Avenue stage to a trough, when the pole struck him in the abdomen, about the umbilical region. He was immediately seized with great pain, and, as he was quite unable to walk, the park ambulance had brought him to the hospital.

On admission, he was found to be a well-nourished man, without anæmia or the symptoms of alcoholism (although looking like one addicted to drink), but in a condition of profound shock. The pulse was 70 and exceedingly small, the temperature 96° F., the respiration accelerated and thoracic, and the body cold. Examination revealed no contusion of the abdominal wall, but the muscles over the abdomen were very rigid. In the lower umbilical region there were slight distension, dullness on percussion, and great tenderness, the rest of the abdomen being tympanitic. Over the liver the resonance was tympanitic on light, but flat on deep percussion. Six ounces of normal urine were withdrawn with a catheter. A movement of the bowels occurred during the morning. There was a constant desire to urinate, so that a bed-pan was kept constantly under him. A rupture of the bowel was suspected, and Dr. Briddon sent for.

Powdered opium, a fourth of a grain every two hours, and alcohol in small quantities, were ordered. Hot bottles and warmed blankets were placed about the body. The pulse fell to 56, continuing very small. The patient was not restless, but complained much of thirst and abdominal pain. Dr. Briddon decided that operative measures were contra-indicated in the existing condition of shock.

During the night the condition improved, the pulse reaching 84 and becoming slightly stronger, and the temperature 97·5° F. The tympanites, however, had become more marked, and the abdominal pain had not abated. An ice coil was placed over the abdomen, and opium in quarter-grain doses given every hour. The entire abdomen was tympanitic on light percussion, and on deep percussion dullness was found in the lower umbilical and upper hypogastric regions. In these sites also the distension was most marked. The urine was normal and had been voided voluntarily during the night.

A consultation was held at 2.30 p. m., and immediate exploratory laparotomy decided on. Chloroform was administered, the abdomen was shaved and prepared in the ordinary antiseptic manner, and, the pulse being very poor, an enema containing three ounces each of whisky and warm water was given before the operation. An incision four inches long was made in the median line, beginning at the umbilicus, the peritoneal cavity was opened, and about three pints of semi-clotted blood were let out. The left rectus muscle was found ruptured transversely in its lower part, and the small intestines were firmly matted together by old adhesions. Accordingly, the incision was enlarged upward and the intestines were turned out *en masse* and protected between hot antiseptic towels. Their surface was carefully explored for bleeding points, and likewise the bladder, the spleen, and the lower surface of the liver. The peritoneal cavity having been thoroughly washed out with hot water (at 105° F.), an attempt was made to restore the intestines to the abdominal cavity. Then for the first time a fæcal odor was detected. The intestines were again lifted up and the mesentery was gently separated, and in it a rent was found leading up to a small rupture in the ileum. On separating the parts, a gush of blood came from the depths of the cavity, but only momentarily. After diligent search, a bleeding point in the mesentery was found and ligated, when the hæmorrhage ceased. The opening in the intestine was then closed with Lembert sutures, and the peritoneal cavity again thoroughly irrigated with hot water. On attempting to return the intestines to the abdominal cavity, it was found that this was impracticable because of the tympanites and the firm adhesions. Three small longitudinal incisions were then made into the gut, through which much gas escaped, and immediately closed with Lembert sutures. The intestines were then returned to the abdominal cavity, a glass drainage-tube was fastened in the lower angle of the wound, and deep silk sutures were passed through the entire abdominal wall, including the peritonæum.

The poor condition of the patient had demanded that haste be used in the performance of the operation. Three times enemata of whisky and warm water had been given, as at times the pulse had been hardly perceptible. An antiseptic dressing was applied and the patient put to bed and given warm applications and cardiac stimulants. No unpleasant symptoms followed the anæsthesia; the pulse improved, but continued very rapid. Whisky, digitalis, and opium were given alternately in small doses. The temperature at 8 P. M. was 100° F. During the night the patient slept about four hours; he was restless and thirsty, and had two watery, blood-stained movements.

On the following morning the temperature was 104·4° F., the pulse very rapid and feeble, the respiration 40 and thoracic, the abdomen tympanitic, and the dressing somewhat blood-stained. At 9 A. M. the temperature was 105° F.; the patient rapidly grew weaker, and died at 9.20.

At the post-mortem examination there was about a pint of semi-clotted blood in the peritoneal cavity. The openings in the intestine were found firmly healed. On lifting up the mass of intestines and separating the mesentery, a vessel, one of the vasa intestini tenuis, was discovered on which no ligature had been placed, the distal portion only of this severed artery having been tied. The intestines, especially the ileum, were markedly congested.

Dr. Gerster asked for the experience of the meeting as to the results obtained from washing out the stomach as a preliminary to operations for intestinal obstruction. The proposition had originated in Germany, and had been strongly upheld at the German Congress of Surgery held at Berlin in 1887. He had once had a case of obstruction of the bowel, with persistent vomiting, which had reduced the patient to a very low point, and had siphoned out the stomach. Nearly a gallon of very offensive fluid fæces had been removed in this way, the amount and fœtor of which had been to him astonishing. The difficulties experienced in restoring the intestines after opening the abdomen were, in his opinion, due to their being distended with fluid fæces, not gas. By washing out that portion of these matters which had regurgitated into the stomach, not only the danger of inspiration of the vomited fæcal matters was eliminated, but also more space was made in the abdominal cavity for the intestines to occupy.

The Chairman said that he remembered making an autopsy in a case of intestinal obstruction some years before, in which during life the persistent vomiting of a greenish fluid had been a prominent feature, and in which he found enormous dilatation of the stomach, which was filled with the same kind of fluid as that vomited during life. He also referred to a case under his charge at the time in the Presbyterian Hospital, in which there was a localized peritonitis caused by the kick of a horse, and also moderate symptoms of obstruction and vomiting of greenish fluid. The last had been relieved by siphoning out the stomach.

Dr. F. E. Lange thought the most important question to be decided in connection with doing laparotomy for intestinal obstruction was as to what operation the patient would be able to stand; practically a choice had to be made between laparotomy with attempts to remove the obstruction, and enterostomy. No doubt it was always desirable to ascertain the nature of the condition leading to obstruction and relieve it where practicable, and to know whether or not the obstruction was of such a nature that through its persistence death must occur. No doubt it was always preferable to operate as early as possible if at all, and therefore a correct diagnosis, though extremely difficult, was of the greatest importance. But at the same time it was not a good rule to open the abdomen in the radical way described by Dr. Gerster in all cases, especially where the patient was very much reduced. If we made operation by such a laparotomy a fixed rule, a number of patients in the later stages of intestinal obstruction would die from the effects of the prolonged or extensive operation who might have been saved by enterostomy. In other words, there was a point beyond which the immediate dangers of a radical operation were too great, and we must draw the line inside of what the patient could endure. Only larger experience would teach us just where this ine should run. Another point to be decided was as to what operation was best after the diagnosis had been made, for we ought not to forget the experiments of Senn and others, made with a view to shortening the duration of the operation as much as possible, nor yet the idea of leaving the obstruction alone and making an anastomosis of the intestinal tube leading around it. He had once operated on a child for intussusception, before Senn's ideas had been published, by doing ileo-colotomy, there having been no possibility of disengaging the gut. Death had followed from shock. He would remark that in this case—where it was impossible to reduce the invaginated part—this had been due not to the presence of adhesions, as had been supposed, but to the engorgement of the intussusceptum beyond the point of infolding. Even after death it was quite impossible to pull back the swollen intussusceptum through the narrow ring through which it had entered. Now, in a similar case, he would not make any prolonged attempts at reduction, but would use either the Senn plates or the catgut rings as made by Dr. Abbe, and effect anastomosis.

The speaker had operated repeatedly for intestinal obstruction, the causes of the obstruction having been quite varying; thus, intussusception, a nodular mass of mucus and epithelium collecting just after birth, an impacted gall-stone, strangulation by a band of adhesion resulting from tubercular peritonitis, intra-abdominal abscess and perforation following an operation for strangulated hernia, and an acute attack of obstruction supervening in a chronic form of the disease (four cases). Almost all of these patients had come under observation late, and only four had recovered—one having strangulation by a band, one adhesion and perforation of the gut after kelotomy done five weeks before, and two cancer of the large intestine treated by enterostomy. The stage at which the operation had been performed, and other elements complicating the situation in these various instances, had led to an unfavorable or a favorable result. He would mention one instance particularly, which went to prove how long a time ileus might last and yet come to a spontaneous cure. A woman had undergone laparotomy for the removal of an intra-abdominal tumor with broad insertion in the pelvis, and a second time for the removal of the other ovary. After the second operation, ileus was developed and, as its form was not a very acute one, he waited till the eighth day before the symptoms seemed to call for operative interference, when he performed a third laparotomy and attached the beginning of the sigmoid flexure to the parietal peritonæum. He had intended to incise the gut on the following day, but during the night an ample movement occurred. The woman recovered health, although at intervals thereafter there were slight recurring attacks.

Dr. Gerster thought a point of very great importance in abdominal operations of every sort was to finish them as rapidly as possible, and for this purpose he would advise that in operating for the relief of internal obstruction the incision made should be relatively of ample length. He always made a large incision so as to find the cause of the obstruction at once. He had once been present at an operation where the usual small incision for exploration had been made, and an hour spent in vain searching for the condition present. The patient afterward died and the cause of the trouble was first discovered at the autopsy. If the condition of a patient was such that an operation was still feasible, he would make this comparatively long incision, note the landmarks, and proceed with a better promise of success. At least he believed the good results to be thus obtained would overbalance the losses chargeable to the size of the wound, and would easily offset the many cases where, after making a small incision, nothing could be found, and the operation had to be abandoned or an artificial anus made and the patient left to his chances, the condition remaining in the portion of bowel below the artificial outlet being unknown. Where intussusception, for instance, could be made out prior to operation the artificial anus was the proper means of treatment, but where the mischief was caused by a strangulation or volvulus leading to gangrene, the patient would die in spite of the artificial anus. Rather he would push on to a diagnosis, get his hand inside the abdomen, and reach a diagnosis as quickly as possible. There were a number of conditions which only a large incision could enable one to recognize and deal with intelligently.

Dr. Lange repeated that the surgeon would meet with cases where the patient's vitality would not endure the shock of an extensive operation, however cautiously done, where, nevertheless, he might recover after the making of a small incision, or a temporary enterostomy. Some patients must always be sacrificed if enterostomy was laid down as the only operative rule, and the difficulty lay in deciding in which direction was the greater danger.

The Chairman agreed with Dr. Lange that in the earlier stages of intestinal obstruction, in which shock was not a pronounced feature, and the general condition would warrant such a procedure, an incision long enough for thorough exploration and the institution of such proceedings as were necessary for radical cure were in order; but that in the later stages, where the nature and seat of the obstruction were unknown, and the abdomen was tympanitic—in fact, in cases in which the patient was *in extremis*—the more prudent course to pursue would be to make an incision only long enough for temporary relief, by the formation of an anus præternaturalis.

Dr. R. Abbe remarked that in a case recently reported by him the wisdom of this course had been made quite clear. The patient was nearly moribund at the time, when a small incision was made which enabled him to introduce two fingers and discover an enormous distension of the colon. Its hepatic flexure was drawn to the mouth of this small opening and there emptied. Six weeks later the patient was operated on with Senn's plates and an anastomosis made around the constricted portion of intestine, and he entirely recovered.

Dr. Wyeth held that in cases where symptoms of obstruction had existed for several days, and where the patient's abdomen was greatly distended and collapse was imminent, a small incision should be made, and the first loop of distended gut which presented at the incision opened. He had recently operated in just such a case, and the patient had been saved. A large abscess had formed in the pelvis and had occluded the intestine. He evacuated the former *per vaginam*, and the obstruction ceased. If collapse was not imminent, a search for the point of occlusion was justifiable, and just above this point, when found, the enterostomy should be done. Neither exsection nor any other very extensive curative procedure should be undertaken until the patient's condition was improved.

**Removal of a Thyreoid Cyst.**—Dr. Charles McBurney presented a cyst of the thyreoid of large size, of four years' growth, removed through a median incision three inches in length made through its capsule and a thin layer of normal gland tissue. The handle of the knife had been used to effect enucleation, and the hæmorrhage had been insignificant. The operation wound had healed primarily under one dressing.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION IN OBSTETRICS AND GYNÆCOLOGY.

*Meeting of April 25, 1889.*

Dr. J. E. Janvrin in the Chair.

**The Manual Treatment of Diseases of the Pelvic Organs according to Brandt's Method.**—Dr. H. J. Boldt read a paper with this title, first making a practical demonstration of some of the manipulations employed on a patient suffering from partial procidentia. He concluded that the treatment required much time and patience, and so its use was limited in practice to patients whose means allowed them to pay for long-continued professional services. The method required the whole time and attention of the operator who would use it successfully. It was quite important that he should learn it from seeing it done by Brandt himself or some of his most experienced followers, and not from reading. Success required very exact and highly trained faculties for making a physical diagnosis of gynæcological diseases, else more harm than good would be apt to result. Brandt had attained a success in the use of his method superior to that of any of his pupils, not only on account of his judgment in the selection of cases and his technical skill, but owing also to the system of voluntary movements which he used in conjunction with the massage. The method was not applicable in the case of very fat patients. The conditions which contra-indicated the use of the Brandt method were: 1. All acute inflammatory processes, except some which might arise during treatment. 2. Dilated tubes. 3. The presence, or the suspected presence, of pus. Those in which it was indicated were: 1. Chronic and subacute parametritis and perimetritis. 2. All non-acute uterine inflammations. 3. Chronic and subacute oophoritis. 4. Catarrhal salpingitis. 5. All displacements of the uterus, with or without adhesions (provided no dilated tubes were present). 6. Proctocele and cystocele. 7. Uterine hæmorrhages not dependent upon neoplasms in the substance or cavity of the uterus, or upon endometritis. 8. Incontinence of urine dependent upon relaxation of the vesical sphincter. 9. Hæmatocele. 10. Floating kidney. 11. Prolapsus recti.

In the last three conditions named the speaker had no experience, but, from personal statements made by Brandt, Nissen, and Professor Schauta, he was particularly confident of the successes obtained by them in the treatment of hæmatocele. He thought hæmorrhages or catarrhal discharges due to a diseased endometrium could be treated in a more radical and rapid manner by the use of the curette and alteratives. While great gentleness in the employment of massage was necessary, some pain must usually result from the manipulations needed. Before beginning the direct manipulation of the diseased organ, a preliminary massage, consisting of small circulatory stroking movements over the promontory of the sacrum, was to be employed. The lymphatic glands so numerous here were to be thus stimulated. The parts surrounding the seat of the disorder were also to receive massage till the sensibility became lessened. After the specific treatment, of whatever sort, the séance was to be closed by light massage, and finally vibratory pressure with the open hand on the lower part of the abdomen to produce a certain soothing effect. If by a mistaken use of the method a more acute inflammation or a hæmatoma was caused, very gentle and brief but often-repeated treatments were to be continued, the patient being in bed and ice-bags applied in the intervals of the massage, until the previous treatment could be resumed.

The length of a séance might vary from three to forty-five minutes, according to the nature of the case. The speaker gave accounts of several cases in his own practice, especially of incontinence of urine, cystocele, and procidentia, where the happiest results had followed massage by Brandt's methods. He did not think this method of treatment would avail in anterior flexions with loss of muscular substance, or that it would be as efficient as Alexander's operation for long-standing or very obstinate backward displacements of the uterus. He strongly recommended it for removing pelvic exudations. In the case of a number of the manipulations made for special conditions, which the speaker described, exercise of the abductor and adductor muscles of the thighs was an important adjuvant. He believed the Brandt methods destined to render more important services in gynæcological practice when greater skill and wider experience in the selection of cases were attained.

Dr. W. M. Polk, after discussing the details of the Brandt method in displacements of the uterus with adhesions, or with inflamed ovaries and tubes, agreed with Dr. Boldt that the whole system was an elaborate one, demanding the entire time of one who would use it effectually. He would gladly see it introduced into some institution where it could be carried to that point of perfection necessary to its not doing more harm than good.

Dr. H. C. Coe agreed that special training and the tactus eruditus were needed for the selection of cases to be treated by Brandt's method, and especially in determining the position, nature, and amount of adhesions. He had recently performed an autopsy on the body of a woman who had once undergone an Alexander's operation which had failed to produce the slightest improvement of her condition. He had found intestinal adhesions due to local peritonitis. In this case the patient had suffered during life from colicky pains, but the uterus had been freely movable and the adhesions slight in amount and distensible. He thought little could be expected from massage where the ovaries were much hypertrophied or cirrhotic, or where fibroids had been developed. The whole method seemed to him to demand more skill and more knowledge of pelvic anatomy and diagnosis than gynæcologists now had.

Dr. A. P. Dudley thought the Brandt method had but a narrow field of usefulness, judging from the numerous admitted contra-indications. Laparotomies were constantly showing such unsuspected and previously undiscoverable conditions in the pelvis, even where the best men had attempted a diagnosis, that such manipulations as were used in the Brandt method seemed to him fraught with serious danger. The time could scarcely come when small suppurative deposits in different parts of the pelvic viscera, or small exudations of blood, would be certainly determined without an incision.

Dr. A. H. Buckmaster remarked that he had been using manipulations of his own devising to stretch adhesions for a year or more and had got very good results. There was always some danger connected with any such plan of treatment, and a full knowledge of pelvic anatomy was required. But he thought it possible to exaggerate the difficulties connected with the method, and especially the frequency of conditions hard to detect which contra-indicated its use.

Dr. Boldt repeated that the fact should be clearly defined that, in order to use Brandt's method, an operator needed more skill and more ability in diagnosis than the ordinary gynæcologist possessed, else more harm than good would result. He would exclude from treatment by this method cases of oophoritis where there was much hypertrophy, peritoneal thickening, or cystic change, as a cure, if attainable, would demand a very long course of treatment. Nevertheless, in the milder inflammations of both ovaries and tubes very good results could be secured. Adhesions were never to be parted forcibly; their stretching was to be a slow and gentle process, continuing week after week. He had failed in certain cases where the uterus was bound down by thick veils of adhesions or plastic exudations of very great density, he would admit. It was to be remembered that Brandt, in treating thousands of cases, had never had an accident. After all that had been said, the method was not so limited in applicability as some imagined. Even so, if it were employed only for the cure of procidentia, mild cases of oophoritis, and some of the posterior displacements, it would deserve an important place in gynæcology.

**The After-history of Incomplete Ovariotomies.**—Dr. Coe read a paper with this title. The class of cases to which he referred was that in which the cyst was so firmly adherent that the operator judged it better to drain rather than remove it. He did not refer to exploratory incisions. He wished to invite discussion as to whether the after-history of many cases of incomplete ovariotomy did not show that the subsequent condition of the patient, so far as subjective symptoms were concerned, was worse than before the operation. The following history would illustrate his meaning:

A lady, aged thirty, had received treatment for three years for a left latero-flexion of the uterus, complicated by prolapse and cystic degeneration of both ovaries. The patient had had peritonitis, but was fairly comfortable. When a cyst of the size of an orange had developed, he had decided upon laparotomy. The operation had proved quite difficult. The cyst on the right side he had been able to separate from its adhesions, but that on the left had been so firmly attached to the uterus and to a loop of the small intestine that he had not considered it possible to effect separation, and had accordingly emptied the cyst, stitched it into the abdominal wound, and left a drainage-tube inside the sac and another passing to the bottom of Douglas's pouch. The patient had recovered excellent general health after this operation, but he could state positively that her local condition was worse than before it. In addition to the former pains she had constant vesical irritation and severe tenesmus with each act of micturition, also frequent intestinal colic, a more profuse menstruation, the same amount of dysmenorrhœa, and a drawing up of both uterus and bladder. The last-named condition and the resulting vesical irritation were present in another patient of his, who had had a too successful Alexander's operation performed. He was convinced that where a small, deeply seated, adherent cyst was forcibly drawn up and stitched into the abdominal wound, the uterus and bladder, being dragged up with the sac, were fixed in an abnormal position, from which distressing symptoms must result which it was difficult or impossible to relieve. He thought drainage through the vagina could in many cases replace stitching of the sac into the abdominal wound. The risks of sepsis and of an exhausting suppuration following the latter procedure were also to be remembered.

Dr. R. A. Murray said that in his dispensary work he met with many patients whom various operators here, in other cities, and abroad had subjected to various radical surgical operations. He had been astonished to see how many had not been benefited. Most of all had he observed this where attempts had been made to drain cysts that could not be removed.

Dr. Polk fully agreed with Dr. Coe that the removal of a firmly adherent cyst should be attempted only by those of great experience. The question of tapping and draining then arose. He would consider the position of the sac, and whether the adhesions best allowed of its being lifted into the abdominal wound or sunk so as to be drained through the vagina. In the latter event he would add abdominal drainage. In the case of large cysts, he would, before opening them, set up adhesions holding them in the desired position, as was done with displaced pancreatic cysts, so that afterward they could shrink down to their natural place.

Dr. J. R. Goffe, while he admitted that many adherent cysts must be left untouched, thought there was too much timidity shown about removing them complete, when the abdomen was once opened. Our present means of controlling hæmorrhage by hot water, etc., should make us readier to get out tumors, even where great difficulties had to be encountered. The speaker related the history of two such cases in which he had operated with entire success.

Dr. Polk thought the question limited to cases in which the best operators would not venture on removal; Dr. Dudley expressed his appreciation of the point made by Dr. Coe; and Dr. Coe closed by saying that he had spoken from the standpoint of an operator of limited experience, and was in sympathy with Dr. Polk's views as to the management of the sac when drainage was decided on.

## CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

*Meeting of April 20, 1889.*

Dr. Andrew H. Smith in the Chair.

**Observations on Cough and Cough Remedies.**—Dr. James K. Crook read a paper with this title. (See page 676.)

Dr. T. E. Satterthwaite said that one was very apt to treat a cough as a symptom, whereas he thought it really should be treated by itself. He had very little to say, however, upon the subject, as Dr. Crook had covered the ground very well, and brought out the points he would have brought out himself. It seemed to him that a cough might be developed from any disease in any of the principal cavities of the body, from the larynx, as stated by Dr. Crook, down to the abdominal cavity and the pelvic cavity, and the cough itself might be caused through some unnatural change in these parts of the system. It seemed to him that we should look at a cough in that way; try and trace it back to the point whence it rose, and then treat the disease rather than the cough, which was but a symptom. He believed that if we treated coughs in that way we should usually meet with success.

Dr. S. S. Burt considered that many of the coughs that patients had were necessary parts of their disease, and they were inclined to treat them and ignore the origin, which they did not understand. In cases of bronchitis they had their dry stage and then their moist stage, which gradually increased and then gradually decreased. He thought that in the majority of coughs if the patients did not take any medicine they would be just as well off. There were some medicines which hastened the facility of expectoration and relief of a cold. Ipecac was one of those that had been used the most. Chloride of ammonium had also been used considerably. In cases of bronchitis, however, it would be better if people did not put anything into their stomachs. In chronic cases he had used some of these expectorants, but he did not remember any chronic cases where patients had been cured by them. They went on coughing, though they might be somewhat benefited or relieved. In chronic bronchitis one obtained more benefit by going to a warmer climate. In such cases he had sent persons South, and their cough had left them before they had got farther than Virginia, so remarkable was the effect of change of climate. In cases where morphine and other harmful drugs were usually prescribed, a change of climate would prove more beneficial, but it could not always be said whether it was best to send them into the country North or South until it had been tried. If patients were filled up with cough medicines, their stomach and bowels were upset, and perhaps no end of injury was done to the nervous system.

Now, in phthisis and in all those troubles of the lungs which produced a cough, we could usually relieve it. Of course it might become aggravated, and create a reflex trouble in the throat. He had found it a good plan in these cases, chronic or acute, to wash the throat with a solution of morphine in glycerin. He often gave a troche containing a little opium rather than a prescription in the form of a liquid. The troche, by slowly dissolving in the mouth, imparted its full strength where it was most needed, while it was necessary to take a great deal of a liquid to have the proper effect on the throat. He had found in actual experience at Bellevue that there were but few cases cured by giving medicines. He had not much faith in them, and did not advocate them or prescribe them very much.

It was very important, as Dr. Crook had said, to trace the source of a cough. We knew that by putting our finger in our ear it would make us cough at times, and the speaker thought there were many other nervous affections of the body that caused cough.

As Dr. Crook had already said, proper clothing would sometimes relieve a cough, while with many, very simple things would check it, such as a dose of castor-oil, or a piece of flannel wrapped around the body. These simple remedies were much better than filling up with drugs, where it could possibly be avoided.

Dr. R. W. Wilcox said that there were some points that he had been led to consider upon looking over the subject of cough remedies. Of course, we all agreed with Dr. Crook as to finding out the cause of the cough. Supposing this done, there were some certain definite things in regard to cough remedies that we could state. It was probably well to give a mild expectorant, which would please the patient by the decrease of the irritation, and humor him by producing a secretion from the bronchial membrane. He had come to this conclusion from the large number of cases for which he had prescribed. Where there was much secretion, he believed that atropine would do more good than any other remedy. In the most careful investigations as to the sources of coughs, after the throat, lungs, and heart had been explored, there were numerous cases for which we could find no satisfactory anatomical basis. With nervous coughs he had succeeded better with the bromides than with anything else. One other point in which his practice had differed from that of others was the absence of opium or morphine in cough prescriptions. He had failed to find any cough in which morphine was advisable, except to ease the pain of a dying patient. We could get from the bromides all we wanted in the way of cough medicines. He presumed that out of the thousands of prescriptions that went from his clinic every year there were but two or three in which morphine appeared.

Dr. H. D. Chapin said that he agreed with what had been said in regard to the stomach. He thought there was a very close connection between the stomach and the bronchial tubes, and the objection that he had to a great many cough mixtures was that they had a tendency to upset the stomach. For this reason he thought they did more harm than good; but we had to give people something, as had been stated; hence, it seemed to him that we should give them something that would do as much good and as little harm as possible. He had had no experience with apomorphine. He thought that codeine was a valuable remedy, and he gave it in almost every instance. He believed that codeine, in the correct dose, would not upset the stomach much, and would ease the cough. He also gave chloride of ammonium a great deal, but the objection to that was, it upset the stomach in some cases. If we took these mixtures ourselves occasionally, it would, perhaps, open our eyes to the way they acted. He remembered, several years ago, the idea struck him to taste some of the drugs he gave, and the consequence was he cut off a great many of them. Take, for instance, compound tincture of cinchona, which was said to be an excellent tonic, good vehicle, etc. He had found that it almost made him vomit, and he did not give it any more in practice. He had found, too, that chloride of ammonium was very nauseous.

With reference to unknown causes of cough, there was one case he would like to report. It was a case of enlarged bronchial glands in a child, and it had been exceedingly difficult to find what the trouble was, as repeated careful examinations of the chest had always proved negative. But the child kept on coughing, in spite of all he could do, and finally a death certificate came in, with the statement that one evening she had been playing with her mother, had had a violent paroxysm of coughing, and had fallen dead. He had been fortunate enough to obtain a post-mortem examination, and had found there had been a very large gland, forming an abscess pressing upon a nerve. The death of the child had been caused by irritation of the abscess upon the nerve, which had broken down, probably, with the exertion. She had been having a little romp with her mother, and the exercise had caused the sudden death.

Dr. G. E. Abbott thought, with Dr. Burt, that it was best to try the simple remedies; and, with Dr. Chapin, that it was best to prescribe those things we had tried ourselves. He knew some time ago his father had had bronchial trouble, and he had used the ordinary spirits of camphor, which he had kept tied in his handkerchief, and frequently inhaled it. Lately he had tried it with patients. It was very handy, as it could easily be carried in a small pocket, and was always at hand when wanted. It was one of the best remedies he knew of.

Dr. W. A. Shufelt said that he would like to say a word in regard to the habit of coughing which he thought had been lost sight of. He believed that a cough was in every case a reflex paroxysm, and that the more one coughed the more likely it was to be repeated. After the patient had had a cough for several days it required much less irritation to bring on this paroxysm than at first. He thought many patients got this habit, and by exciting the nerves irritated the cough. He had seen many cases in which the patients, having been directed to refrain from coughing as much as possible, had improved rapidly. It was a subject worthy of a great deal of investigation. It was well known that whisky or brandy or a similar stimulant would relieve a cough, and the speaker thought that could only be explained on the theory that the stimulant excited the nerve-centers in the brain, and in that way the paroxysm was reduced. He had seen some cases where a blister applied just behind the angle of the ear would do a great deal of good in relieving a cough. He had seen other cases in which a galvanic battery, using the positive pole below the angle of the jaw, would also relieve a cough. The theory of counter-irritants accorded with this view; that was, he stated, that counter-irritants, blisters upon the chest, acted more upon the central nervous system than by relieving the arterial pressure by drawing blood to the surface.

In regard to the treatment of cough, of recent years he had given up cough medicines of all kinds. He believed we could do more with such remedies as creasote and alum and turpentine. Turpentine and iodoform combined were excellent. Two drachms of creasote, two drachms of terebene, and two drachms of tincture of iodine in an ounce of refined spirits; fifteen drops of this, to be inhaled whenever the paroxysm came on, he considered far superior to the nauseous mixtures that were often given. In acute bronchitis, instead of using medicines he was in the habit of using a tablespoonful of terebene in a pint of boiling water, and directing the patient to inhale this three or four times during the day.

The Chairman said that there were some points that had occurred to him in the course of Dr. Crook's paper and subsequent discussion which he would like to bring up. In spraying the throat he had found iron, or a solution of tannin in glycerin, or, what he had used a great deal lately, camphoric acid in two-per-cent. solution, very good for this purpose. The camphoric acid was difficult to get in a greater strength than two per cent., but it could be made in two per cent. readily by rubbing up in glycerin and diluting with water. This agent, which had been quite recently introduced into practice, appeared to have a peculiar influence also in diminishing the amount of excretion from the mucous surface, and the experience he had had with it, which had not been very great, but still enough to enable him to come to some conclusion in regard to it, was that it justified the expectations in regard to it in Germany, both as an external and as an internal remedy. In chronic bronchitis he had found it of much use, as also in the way he had spoken of, using it by means of spraying.

The mechanical result of coughing must, of course, be irritating. It could not be otherwise. The rapid passage of air over an irritated surface, as in the act of coughing, produced a mechanical irritation which created a bad condition of things, and it was desired on that account that it should be mitigated as far as possible, but he was fully in accord with what had been said in regard to the use of opiates in these cases. The case must be a very exceptional one in which he would be willing to employ morphine or other forms of opium. The greatest sedative, greatest in its effect on cough, especially when there was an excess of mucous secretion—as, for instance, in the case of advanced phthisis—was cerium oxalate. A number of years ago a very extensive trial had been made of this drug at the St. Louis Hospital. A good many cases of phthisis had been at that time in the hospital, and each patient had been provided with a small quantity of the drug, with instructions to take it dry upon the tongue and wash it down with water, doing this immediately upon awakening. The results had been very satisfactory, and he had since used it considerably. In some way or other it relieved the irritation of the bronchial mucous membrane, especially in phthisical cases.

He thought many cases of cough, in females especially, were attributable in a large degree to the hysterical element, and their mental impression went a good way. Something had been said already of the power which a patient could acquire of restraining a cough by voluntary effort. The Germans, he believed, employed that method to a considerable extent. For such cases a thrashing might be as good as anything. One high authority had some time since recommended a switch as the best cure for whooping-cough. If you had one of these hysterical girls who kept up an everlasting dry cough, touch her between the shoulders with a cautery, and if she did not get better in a little while, the application might be renewed. He thought in many cases that the cough would be lessened. Perhaps any other treatment that might be equally impressive would prove equally satisfactory. While upon the subject of irritation, he might mention—what everybody knew—how much the digestive canal had to do with it, and how successful the old women were in carrying off a cold with a dose of medicine, such as castor-oil, which had already been mentioned.

In treating a cough in the early stage of pleurisy he had been in the habit of strapping, binding the patient as tightly as possible, but in a manner that would leave him comfortable. As to chloride of ammonium, he had prescribed it a good deal, but he must say that up to the present time he had had no evidence that it had been of any special value. The taste of it was not very good, especially if combined with anything sweet. Now, in giving chloride of ammonium, he generally gave it in a little mineral water—Vichy, for instance. In that way it could be taken more comfortably. The vehicle to be used puzzled us a little at times. It would be found that a great many patients who said in advance, "Please don't give me anything sweet—I can stand anything bitter or sour, but don't give me anything sweet," would cut one off at once from the whole list of syrups. Lately he had been using chloroform water as a vehicle for many prescriptions, not only cough medicines but some others. Water at an ordinary temperature would dissolve about one per cent. of chloroform. It was sweetish, but not of that kind of sweetness that people objected to. There was, perhaps, a little sedative effect derived from it, but he was getting to like it more and more every day. It was one of those things he could taste himself without feeling remorse at the punishment he was inflicting upon his patients. Another point was overheated rooms. Many patients, as soon as they had a cold, would be shut up in a room heated up to 75° or 80°, and it would be thought that the patient was being done a great service. He had often broken up a long, troublesome cough by sending the patient out of doors when the air was crisp and cold.

Dr. Crook stated that he did not wish to be understood as professing that he had cured cases of chronic bronchitis with the formula known as "Stokes's expectorant." He simply regarded it as a useful combination of stimulating expectorants in cases where a stimulating expectorant was indicated, and had prescribed it with happy results in many hundreds of cases at the chest clinics of Bellevue and the Post-graduate School. He thought it was absolutely necessary to give a little morphine in some cases. Several years ago he had abandoned it in favor of codeine, but the latter drug had disappointed him and he had been obliged to return to his old practice of prescribing occasional minute doses of morphine. He had recently employed strapping in a case of painful pleuritic cough, but after a few days the patient had informed him that he preferred the cough. He did not regard this as a practicable therapeutic measure in the treatment of cough, as even in cases of fractured ribs patients would often grumble at the strapping. He admitted that the taste of carbonate of ammonium was something to be remembered, but personally he did not dislike the chloride, nor did his patients find any fault with it. He had been much disappointed in the bromides. Theoretically, they should be of great value in allaying irritative coughs, but repeated observations had taught him that this expectation was fallacious, and he had abandoned them except in the cases of reflex cough, as mentioned in the paper.

## Book Notices.

*Lehrbuch der praktischen Ohrenheilkunde.* Von Dr. D. B. St. John Roosa, Professor der Ohren- und Augenheilkunde an der medicinischen Facultät der New Yorker Universität. Nach der 6. Auflage des Originals. Bearbeitet von Dr. Ludwig Weiss, in New York. Mit 77 Holzschnitten. Berlin: August Hirschwald, 1889. Pp. xii–396.

This is a translation of Dr. Roosa's well-known treatise on diseases of the ear, which has already reached a sixth edition in the United States, and occupies a foremost place among the standard works on aural diseases.

The first chapter includes a description of the different methods of examining aural patients, the tests with the watch, tuning-fork, etc., and the use of the Eustachian catheters and Politzer's method. Then follows a chapter on malformations and diseases of the auricle. In the treatment of diffuse inflammation of the auditory canal the author says that leeches applied on the tragus may often cut short the disease. He does not believe in Loewenberg's theory of the parasitic origin of furuncles, and is extremely skeptical as to the value of thymic and boric acids, as antiseptics, from experience in their use. He does not consider inspissation of cerumen a disease *per se*, but simply a consequence of inflammation. As regards the removal of foreign bodies from the ear, he thinks that syringing with warm water will generally remove an inanimate object if the case be seen before it has been meddled with.

The author is a firm believer in the antiphlogistic treatment of acute catarrhal and purulent inflammation of the middle ear. He advocates the use of leeches and the warm-water douche. The membrana tympani should be punctured when it is bulging and about to burst. He has as yet found no means of internal treatment that will supersede these active antiphlogistic measures. By means of the tuning-fork, he thinks, we can discriminate between middle-ear disease and disease of the labyrinth. He lays great stress on the proper treatment of the nasal passages, pharynx, naso-pharynx, and Eustachian tubes, and considers constitutional and hygienic measures of the utmost importance, especially in the treatment of chronic proliferous inflammation of the middle ear. He calls attention to the dangers of the nasal douche, especially when improperly used. He does not believe in the so-called "dry treatment" of suppurative middle-ear diseases, and says: "I still think that instillations of fluids hold the first rank, and that the use of powders is of secondary importance."

In the chapter on mastoid diseases an historical sketch of the operation of trephining the mastoid is given, from its earliest performance down to the present day, and due credit has been given to American surgeons for what they have done in regard to this operation. This chapter is particularly well written, and states the author's views clearly. He uses leeches and poultices, and, when these do not control the inflammation, he makes a Wilde's incision. When the indications point to caries or a collection of pus in the mastoid cells, he does not hesitate to cut down to the bone and open the cells, as "it is, after all, a plain surgical operation which no man with any considerable experience in general surgery need hesitate about, when it is indicated." In order to keep the wound open, after operating, he prefers a long tent made of old and thin cotton cloth to silver or rubber drainage-tubes. He is not an advocate of the antiseptic treatment.

The succeeding chapters are devoted to a consideration of caries and necrosis of the temporal bone, cerebral abscess, pyæmia, paralysis, and the diagnostic value of the ophthalmoscope in diseases of the brain resulting from aural diseases. The effects of quinine on the ear, and boiler-makers' deafness, are included in diseases of the internal ear.

Certain portions of the American edition have been omitted in the translation—viz., Chapter I, "A Sketch of the Progress of Otology, with a Bibliography"; Chapter III, "Anatomy of the Auricle and the External Auditory Canal"; Chapter IX, "Anatomy of the Middle Ear"; and Chapter XX, "Anatomy and Physiology of the Internal Ear." The chromo-lithographs and the index of authors the translator has also omitted, as well as numerous reports of cases and several tables of statistics.

A chapter entitled "Presbyakousis" has been added to the German edition, which is not included in the American edition. This name is given to a disease of the nerve, found usually in persons over fifty years of age, due to senile rather than pathological changes.

While we can not agree to the author's views of the "dry treatment" and the antiseptic treatment of wounds, there is little but praise that can be said of this standard treatise. The work has been most faithfully translated, and, although there are certain omissions above mentioned, the distinctive character of the book has been retained, and it is sure to meet with a warm reception abroad and to reflect great credit upon the author.

## BOOKS AND PAMPHLETS RECEIVED.

General Orthopædics, including Surgical Operations. By August Schreiber, M. D., Surgeon-in-Chief to the Surgical Division of the Augsburg Hospital. Index for Vol. II. [Wood's "Medical and Surgical Monographs."]

Report of Amputations performed at the Hospital of the University of Pennsylvania from September 30, 1874, to December 31, 1888. By Lewis H. Adler, Jr., M. D. [Reprinted from the "Medical and Surgical Reporter."]

Twenty-first Annual Report of the New York Orthopædic Dispensary and Hospital (for Children with Spine and Hip Diseases and other Deformities) for the Year ending September 30, 1888.

The Prevention of Summer Diarrhœa among Infants, viewed in the Light of the Lesions. By L. Emmett Holt, M. D., of New York. [Reprinted from the "Medical News."]

Hygiene *versus* Gynæcology. By Julia W. Carpenter, M. D., Cincinnati, O. [Reprinted from the "American Journal of Obstetrics and Diseases of Women and Children."]

Report of St. Mary's Hospital, Brooklyn, N. Y. Under the Charge of the Sisters of Charity. 1888.

Ueber electrolytische Operationen in den oberen Luftwegen. Vortrag gehalten in dem Verein für wissenschaftliche Heilkunde zu Königsberg am 15. April, 1889. Von Dr. Med. R. Kafemann. Wiesbaden: J. F. Bergmann, 1889. Pp. 16.

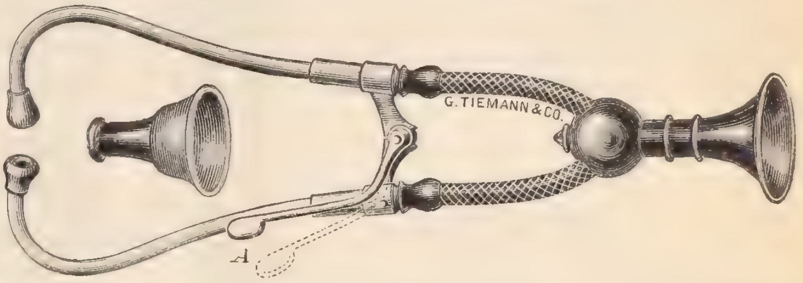
Der Catarrh des Recessus pharyngeus medius (Bursa pharyngea)—Tornwaldt'sche Krankheit—seine Bedeutung und vereinfachte chirurgische Behandlung. Von Dr. R. Kafemann, Königsberg i. Pr. Wiesbaden: J. F. Bergmann, 1889. Pp. 60.

# New Inventions, etc.

## A MODIFICATION OF CAMMANN'S STETHOSCOPE.

By Alfred L. Carroll, M. D.

Most of those who have had frequent occasion to use Cammann's stethoscope or any of the numerous imitations thereof—whether fitted with springs or with elastic bands—are unpleasantly familiar with the painful sensation caused by the ever-increasing wedging of the small, hard ear-piece into the meatus; indeed, in some notable instances serious aural lesions have been thus produced. To obviate this source of discomfort, if not of danger, Messrs. Tiemann & Co. have made for me an instrument which possesses several advantages, and which I have employed for some time past with perfect satisfaction.



Instead of an elastic compression, a simple binding-screw, attached to the hinge and moved by a lever, fixes the arms of the stethoscope at any degree of approximation. The ear-pieces are made of soft rubber, large enough to rest in the concha without entering the meatus. These being adjusted by the forefingers to the ears as closely as may suit the auscultator, the lever may be closed against the tube with the thumb and middle finger of the right hand. An incidental consequence of the lessening of pressure on the ear is a marked diminution of the "roaring" noise which embarrasses the beginner with the binaural stethoscope. The second or auditory curve of the tubes is abolished, for the reason that it is an actual impediment unless the instrument is carefully maintained at the correct anatomical angle to the plane of the face—a precaution seldom observed in clinical practice—while if sound is conducted to the meatus, the auditory canal is quite competent to convey it to the tympanum.

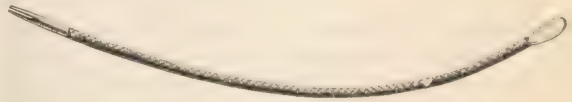
The alterations above described can be easily made in an instrument of the older pattern.

30 West Fifty-ninth Street, New York.

## A UTERINE ELECTRODE.

By Eliza M. Mosher, M. D.,
Brooklyn.

The electrode, a cut of which is here presented, I devised more than a year ago for use in a case of retroversion of the uterus with an hypertrophied posterior wall. It proved so serviceable, not only in this, but in many other cases, that it seems worth while to publish a description of it. It consists of a thin metallic blade and insulated stem. The former is leaf-shaped, and measures an inch in length by three fourths of an inch in breadth, and has a thickness of two or three lines. The stem, ten inches long, is of rather coarse but flexible copper wire, insulated in the ordinary way. When this is bent to fit the curve of the sacrum, the blade (covered with wet absorbent cotton and smeared with vaseline) rests firmly against the posterior uterine wall high up in Douglas's *cul-de-sac*.



With a plate upon the abdomen in the suprapubic region, a current of electricity can thus be carried directly through the uterine body, and forward through the anterior uterine ligaments. I had no thought of using this electrode as a uterine repositor, but I soon observed that the uterus receded more or less during the application of the negative pole of the galvanic battery, and in some cases, by following it, at the same time dropping the stem backward toward the anus, I was able not only to replace the uterus, but to antevert it. I could not at first understand the mechanism of this movement, but now I believe it to be due:

1st. To contraction of uterine muscular fiber and the distension of uterine vessels.

2d. To contraction of muscular fiber in the round ligaments.

3d. To mechanical pressure upon the uterine body, forward and upward.

The permanent effect of galvanism thus applied two or three times weekly has been to lessen the weight of the uterus, to tone up its muscular fiber, to strengthen weakened ligaments, and in the end to cure some cases of retroversion and improve the condition of many. I have employed a current strength of fifteen or twenty milliampères in these cases; more than this is not needed and is liable to cauterize the surface, even though the electrode is well protected by absorbent cotton.

(The instrument was made for me by Fred. Haslam & Co., of Brooklyn.)

## Miscellany.

**Mortality in Cities in the United States.**—The following table represents the mortality in the cities named, as reported to Dr. John B. Hamilton, Surgeon-General of the Marine-Hospital Service, and published in the abstract of sanitary reports received by him during the week ending June 14th:

| CITIES. | Week ending— | Estimated population. | Total deaths from all causes. | DEATHS FROM— Cholera. | Yellow fever. | Small-pox. | Varioloid. | Varicella. | Typhus fever. | Enteric fever. | Scarlet fever. | Diphtheria. | Measles. | Whooping-cough |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| New York, N. Y. | June 8. | 1,568,684 | 688 | .. | .. | .. | .. | .. | .. | 4 | 26 | 41 | 10 | 11 |
| Philadelphia, Pa | June 8. | 1,040,245 | 386 | .. | .. | .. | .. | .. | .. | 14 | 2 | 6 | 5 | 7 |
| Chicago, Ill | June 8. | 830,000 | 229 | .. | .. | .. | .. | .. | .. | 3 | 2 | 27 | 3 | 1 |
| Brooklyn, N. Y | June 8. | 821,525 | 322 | .. | .. | .. | .. | .. | .. | 1 | 8 | 16 | 2 | 4 |
| Baltimore, Md | June 8. | 500,343 | 134 | .. | .. | .. | .. | .. | .. | 3 | 6 | 2 | .. | 1 |
| San Francisco, Cal | May 31. | 330,000 | 97 | .. | .. | .. | .. | .. | .. | 4 | .. | 1 | .. | .... |
| Cincinnati, Ohio | June 8. | 325,000 | 117 | .. | .. | .. | .. | .. | .. | 2 | .. | 12 | 4 | .... |
| Detroit, Mich | June 1. | 230,000 | 57 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | .. | .... |
| Washington, D. C | June 8. | 225,000 | 94 | .. | .. | .. | .. | .. | .. | 2 | 2 | 3 | .. | ... |
| Milwaukee, Wis | June 8. | 210,000 | 65 | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 | .. | .... |
| Minneapolis, Minn | June 1. | 200,000 | 34 | .. | .. | .. | .. | .. | .. | 1 | 2 | 3 | .. | 1 |
| Minneapolis, Minn | June 8. | 200,000 | 43 | .. | .. | .. | .. | .. | .. | 2 | 1 | 2 | .. | .... |
| Newark, N. J | June 4. | 183,563 | 87 | .. | .. | .. | .. | .. | .. | 1 | 2 | 7 | 1 | 2 |
| Kansas City, Mo | June 1. | 180,000 | 40 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | . |
| Rochester, N. Y | June 8. | 130,000 | 22 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. |
| Providence, R. I | June 8. | 127,000 | 42 | .. | .. | .. | .. | .. | .. | .. | .. | 2 | 1 | 2 |
| Denver, Col | June 7. | 100,000 | 32 | .. | .. | 1 | .. | .. | .. | .. | .. | 2 | .. | .... |
| Richmond, Va | June 8. | 100,000 | 31 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Toledo, Ohio | June 7. | 83,500 | 17 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Nashville, Tenn | June 8. | 65,153 | 20 | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .... |
| Fall River, Mass | June 8. | 65,000 | 18 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Charleston, S. C | June 1. | 60,145 | 43 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | . | .... |
| Charleston, S. C | June 8. | 60.145 | 41 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | 2 | .. |
| Lynn, Mass | June 8. | 50,000 | 11 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Manchester, N. H | June 8. | 42,000 | 12 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Portland, Me | June 8. | 42,000 | 13 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Galveston, Texas | May 24. | 40,000 | 10 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Council Bluffs, Ia | June 1. | 35,000 | 4 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .... |
| Council Bluffs, Ia | June 8. | 35,000 | 5 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .... |
| Davenport, Iowa | June 8. | 33,715 | 9 | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .... |
| Altoona, Pa | June 1. | 30,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Altoona, Pa | June 8. | 30,000 | 5 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Binghamton, N. Y | June 8. | 30,000 | 6 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Auburn, N. Y | June 8. | 26,000 | 4 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Haverhill, Mass | June 8. | 25,000 | 7 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Newport, R. I | June 6. | 22,000 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Keokuk, Iowa | June 8. | 16,000 | 3 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |
| Pensacola, Fla | June 1. | 15,000 | 8 | .. | .. | .. | .. | .. | .. | 2 | .. | .. | .. | .... |
| Pensacola, Fla | June 8. | 15,000 | 2 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .... |

**The Treatment of Hiccough.**—In answer to Dr. Sillin's inquiry, published in our issue for June 8th, Dr. J. A. Shirley, of Winchester, Ky., writes as follows: "Drinking water, as slowly as it can possibly be swallowed, for ten or fifteen minutes continuously, seldom fails to relieve the paroxysm in an otherwise healthy person. In a recent severe case of pneumonia in an adult alarming symptoms of prostration, with a feeble, irregular pulse and almost constant hiccough, on the seventh day, yielded to two subcutaneous injections of $\frac{1}{4}$ grain of morphine and $\frac{1}{150}$ grain of atropine, at an interval of twelve hours, after ammonia, whisky, and digitalis had been faithfully given for forty-eight hours without avail."

Dr. Amos Sawyer, of Hillsborough, Ill., writes: "In two cases where every other remedy had been tried, including the continuous electrical current, without avail, the administration of a fresh infusion of pæonia root (I presume that the fluid extract would answer the same purpose), given every two hours, afforded relief in eight and twelve hours respectively. That this remedy possesses antispasmodic properties the above-named cases seem to indicate, but from one or two instances we can not safely infer the whole, and further trial will be necessary before its value in this complication can be established."

**Presidential Addresses.**—At the recent meeting of the Ohio Medical Society, the president, Dr. P. S. Connor, of Cincinnati, opened his address by comparing such discourses to the vermiform appendix, the remains of a once important organ. Nevertheless, he went on to give an interesting sketch of the present drift of work in medicine and of the achievements of the body that he was addressing.

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**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

## Lectures and Addresses.

# THE NATURAL HISTORY OF THE HOSPITAL INTERNE.[*]

BY JOHN S. HAWLEY, M.D.,

ATTENDING GYNÆCOLOGIST TO THE NEW YORK HOSPITAL, OUT-PATIENT DEPARTMENT; ASSISTANT SURGEON TO THE NEW YORK CANCER HOSPITAL AND TO THE WOMAN'S HOSPITAL.

IT was Mr. Emerson, if I mistake not, who said that the most interesting dissertations are those embodying ideas which have long been familiar to the reader, but which he has never before read or expressed. If such is the case, I need make no apology for this platitudinous account of the habits and characteristics of a certain suborder of the genus physician, for we have all been there both as observers and observed. It is most earnestly hoped that such a compilation of well-known facts will be tolerated for the sake of old memories, even though the cavernous yawn evoked by the twice-told tale, and the solemn peal of the passing bell as it tolls for moribund or even mummied japes, be obtrusively apparent to the careful and attentive observer. By a fortunate circumstance I am able to present, in addition to existent data, some curious historical facts which give strong support to the doctrine that even at an early stage of its evolution the class of beings just mentioned was endued with many of the congenital brands and earmarks which now form its distinctive characteristics. This proof of ancient strain and thorough breeding leads one to infer that some system of educational or moral stirpiculture would be of the greatest utility in the further development of the race, but the conditions under which its growth and even existence obtain are such as to render the practical employment of such a system utterly impossible. The same fatal objection meets the proposition that the undesirable traits of the breed be eliminated by prophylactic inoculation with the attenuated virus obtained by a series of cultivations of the microbe of the cognate species freshman, which has its habitat in all of our collegiate institutions. However interesting speculation as to such matters may be, it is not germane to the subject in hand, and can not be given more than a passing mention.

The genus hospital interne, the traits and habits of which I shall attempt to describe, was first discovered by that order of mediæval warriors known as the Knights of St. John of Jerusalem.[†] That is, those pious and worthy gentlemen first captured or brought into public notice the progenitors of the race, following, doubtless, the same plan which was proposed at a meeting of the selectmen of a certain village, and which, if I may be allowed to digress for a moment that I may rob an ancient sepulchre of its dry and moldy bones, is embodied in the following paraphrase of some old memoranda in my possession, entitled "Y$^{e}$ Merrie Jeste y$^{e}$ w$^{h}$ y$^{e}$ Keeper of y$^{e}$ Museum did find Inscribed on a Papyrus Rolle y$^{e}$ w$^{h}$ was contained in y$^{e}$ Case of an Egyptian Mummie, and eke did do into y$^{e}$ English Tongue, and did Relate for y$^{e}$ Diversion of y$^{e}$ Companie y$^{e}$ w$^{h}$ did Attend y$^{e}$ Inauguration Banquet, in y$^{e}$ Yeare MDCCLXXXIX."

I seem to have a lingering and somewhat old-gold-colored impression that I have heard something quite similar at a meeting which I once attended at the rooms of the Society for the Prevention of the Loss of Ancient and Modern Anecdotes, but on that occasion I met so many of my great-grandfather's old friends that I am uncertain. At all events, as I saw the ghouls who compose the membership of the society violate the sanctity of tomb after tomb; as I saw them shovel from their urns the ashes of the bitter gibe of Thersites and the bull of Ajax by means of the bones on which were graven the jokes of the cave-dwellers; as I perceived the pun of Aristophanes lying cheek by jowl with the epigram of Rochester and the phonetic pleasantry of Petroleum V. Nasby; as I wonderingly gazed upon the Gordian knot formed by the interweaving of the queue appertaining to the conundrum of Confucius with the whiskers of a last year's masterpiece of Bill Nye; as I scented the aroma of many others as they were haled from their sarcophagi and aired—I grew so absent-minded that my testimony as to the facts in the case is of little value. Yet I will repeat it, as it affords an admirable illustration of the probable genesis of the interne, in the hope that such fact may justify me, as well as in the fond dream that the rich, green mold with which it is incrusted may be such an efficient disguise to its familiar lineaments that it may be made to masquerade as a tale of the present decade by virtue of a revamping or electro-plating process.

The said meeting was held for the purpose of deciding upon the best method of utilizing the sinuous windings of a babbling brook and the placid bosom of a glassy mere which embellished the tract of land that had been appropriated for a park by the commonwealth. The resolution introduced by the only traveled man in the council, upon whose soul the picturesque dampness of the boulevards of the Bride of the Adriatic had produced a lasting effect, that as close an imitation to a Venetian plaza be made as was consistent with the knowledge of Venetian topography and architecture possessed by local maestros of landscape gardening and masonry, had been adopted. But when the same member, flushed with victory—or, in the allegorical idiom of local philologists, "being too blamed fresh"—stated that the plan required the importation of ten or fifteen gondolas to enhance the resemblance to the model, the beards of the elders wagged ominously. But one member discussed the question, and his remarks were considered most apposite. He had recently been elected, and was fully aware of the great responsibility which on the shoulders of a father of the hamlet rest. He had reached his present high station from a lowly origin, and had laid the foundation of his fortunes simultaneously with those of a sewer by striking a rich deposit of pay dirt, which accident gained for him much lucre and renown, not to mention "inflooence." It was his maiden speech, and forever settled all doubts which may have been entertained by his constituency as to his forensic abilities. He alluded in graceful words to the high regard he possessed for the honorable member who had preceded him; but public office was a public trust, and the surplus should be reduced by tariff reform, not by reckless expenditures. He considered that twelve gondolas were more than could be needed while the park was yet in an undeveloped state, and therefore proposed as an amendment that "wan pair of thim gondolas be procured, and thin to let Nature take its coorse."

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[*] The anniversary address delivered at the fourth annual dinner of the Hospital Graduates' Club.

[†] Spitzbube, "Die Entwickelungsgeschichte des jungen dickköpfigen Hospital-Internen"; "Gewesen Versammlung Jahrbücher," Band, 'steenth, Heft, too great for use.

That such was the method adopted by the Knights Hospitallers seems most probable. Having devised the hospital, they recognized the necessity for the interne; and, shrewdly surmising that somewhere in the great cosmic economy there existed the requisite raw material, by tentative experimentation they produced the primordial interne or internes, and then let Nature take its course. I say Nature, for the question may well be raised as to the possibility of an act of Providence having had anything to do with the matter. In the first place, to those enjoying at one and the same time an extensive acquaintance with internes and more or less reverence for and belief in the wisdom of Providence, the postulate that by divine command was formed from the common clay of the ordinary atypical medical student the pristine rudely fashioned interne savors of rank infidelity. Furthermore, even at that remote date the English sparrow was as aggressively prolific as at the present time, blizzards were not uncommon, and, as all classes of society clothed their nether limbs in tights, the demand for lamb's-wool was excessive; so that we may unhesitatingly accept the *a priori* hypothesis that, on account of the excessive labor required by the condition of things just mentioned, the matter of internes was relegated, with power, to Nature. The hospital existed, and the interne was generated exactly as new bugs and worms are produced whenever the ingenuity of man has devised some means of destroying or blockading the existing varieties which devour his potato vines and ruin his fruit trees. It is quite certain, when some means shall be devised by which a hospital may be run without the aid of any but a mechanical or automatic house staff—and experiments are from time to time being made by the authorities who administer the affairs of some of our hospitals which seem to foreshadow the adoption of some such system—that Nature will immediately produce some substitute for the deposed interne, and the progressive governors will find themselves no better off than before. But, hypothetical reasoning aside, the solemn fact remains that where the hospital is, there are the internes gathered together, and have been since hospitals were.

Hidden, even from the searching eye of the scientist and the anthropologist, within the shell of the ordinary medical student of the schools lies *perdu* the germ or spore of the future interne; and, as from the cocoon-imprisoned pupa springs the gorgeous-winged butterfly, so does the interne cast his dull slough at the beck of the examiner and emerge from his heterogeneous envelope in the radiant panoply of his new existence. And then, as did the mediæval squire, who had a moment before louted down on bended knee a humble and obscure varlet before his sovereign, spring to his feet a belted knight at the accolade of the royal sword, leap nimbly twice or thrice from the ground, deftly crack his heels together in mid-air, and start on his first knightly search for catiff knaves and pyremetous dragons while the fibers of pink jeweler's cotton were yet clinging to the rowels of his new golden spurs, so does the nascent interne fondle his stethoscope and strop his maiden bistoury, smiling a grim smile as his mind's eye sees, between flashes, the struggling, contorted form of the hydra Disease as it impotently writhes under his firmly planted foot. That is, he does in a subjective—I had almost said a Pickwickian—sense, for we have yet to do with the objective side of the question, which may be said to comprise the physical signs, stigmata, or markings presented by the interne. But as these depend on the vividness with which the subjective impressions are produced in his sensorium, both may be considered at the same time in the attempt to describe him.

Not long since, I was struck by the opening sentence in a newspaper article on some of the ethical and sociological institutions of the Windy City. The writer stated that all gall was known to have been divided into three parts, and of these Chicago held two and a half. He was but a poor sojourner in the pent-up Ithaca of daily journalism and knew not the interne. Had his scope of observation and range of acquaintance with all classes and conditions of men been more comprehensive, he would have drawn a different conclusion from his premises. He would have written in place of his last phrase the words: "and these are possessed by hospital internes." This fundamental truth, or axiom, is not to be taken in the sense that the three parts are equally divided among the three members which usually compose a single herd or band of internes. The sum total of that held by any one band is constant—100 per cent. of all gall extant—but the individual blocks of stock are continually changing in size, now one, now another member holding the lion's share. The leader may corner the market and severely squeeze his "short" subordinates, but the band, as a whole, is neither richer nor poorer, for the watering of stock is unknown, and the pristine strength of the first issue is never diminished. These sudden transitions from sinfully great wealth to equally abject poverty are most puzzling to the naturalist if he once loses sight of the primary axiom that the individual may gain or lose, but the commonwealth never be thereby enriched or impoverished. A fiscal stability, then, is the innate, immutable trait of the race.

The interne should be properly classed among the gregarious animals, though he often flourishes alone, but the amount of gall is the same in each community, be it mono-, diplo-, or poly-internal in variety. Delusions of power and grandeur are commonly prominent in the case of the leader of each band of three, whether this be a single community or one of a confederation composed of several bands united under the sway of a foreign oligarchy. In the latter case, each band has a distinct range of territory, and a pseudo-autonomy which, however, is subject to the jurisdiction of the supreme government, which assumes an autocratic protectorate over each local power. There is never more than the most trifling friction—and that is evanescent—between the different bands which compose a single confederation, but intestine strife, ranging from strained diplomatic relations to internecine warfare, is not uncommon in the polity of the individual bands; and there is ordinarily present in the community a feeling of enmity to, and of restlessness under, the yoke of the established government. This, as is the case with other nihilistic movements, requires no other pabulum than simple wind, nor ever crystallizes into dynamite, or laves its fevered lips with the rich, hot, red blood of tyrannical oppressors. The interne loves to inflame the passions of his fellows by incendiary oratory; he loves to launch the winged philippic at the unimpressionable despot; he loves to grind his teeth and to wipe the hæmorrhagic perspiration from the brow of his proud but enslaved spirit as it mutely frets under the imposition of unrepresented taxation; but he is no fool in his degree. He well knows how plentiful and inexpensive are the protoblasts of his race, and how readily these are developed into full-fledged individuals by the action of reagents. He well remembers the sterilized platinum wire with which he was taken from the medical school and placed on the agar-agar of examination by the Examining Board, and how quickly he became stained with the eosine of appointment. He knows that revolt is annihilation, and that his life is but a span. Why should he shorten it?

> " 'Tis but a tent where takes his one day's rest
> The sultan to the realm of Death addrest;
> The sultan rises, and the dark Ferrash
> Strikes, and prepares it for another guest."

The genus interne comprises two suborders—the medical and the surgical—differing only in the character of their stamping grounds. The individual, when gregarious, is always one of three species, technically called house, senior, and junior. Each of these has traits so distinctive as to create the impression that three separate species actually exist; but, as in the case of the soft- and hard-shelled crab, these are but successive stages in the development of the same individual. The junior, after a definite period of existence, buds into a senior; and then, after vegetating for yet another eon, blooms as house. Then comes the cheerless autumn of ejectment into a cold and unsympathetic world, and the withered rose is cast into the basket, to succumb to the dry rot which is said to affect deposed monarchs and retired presidents, or to live again as fragrant *pot-pourri* enshrined in a *cloisonné* jar, regaling the nostrils of the *élite*, and selling for many piasters a carat—if, indeed, it yield not the priceless attar of roses, which leaves its delicate scent for all time, break or shatter its containing vase as you will.

There is also a fourth species, which is not subject to evolution, and which should properly be classed among the *Ephemeridæ*. An animal of this family is sometimes observed in company with a typical surgical band in the capacity of parasite; or, more correctly, as a stunted member of the litter—a shote—existing only by virtue of the numerical integrity of the band, and known as a dresser. He lives but the life of one junior, and is possessed of only the infinitesimal amount of gall which may elude the grasp of the other members of the band through evaporation or inadvertence; but even then the full amount allotted to the band is conserved. This function is believed to be the true *raison d'être* of the dresser, though his services are sometimes required as substitute when death or temporary disability may reduce the active membership of the band. In his normal capacity he is a Canaanite—a hewer of plaster splints and a drawer of water—but he is blessed after a fashion. Expecting nothing, he is never disappointed. He has no burdensome dignity to support, as has the junior; no grievances or snubs to nurse and brood over, as has the senior; no reputation at stake or responsibility to bear, as has the house. With never a carking care to acidulate his nature, he has hosts of good friends if he be of only average good humor, and his short life is a merry one. If an amalgam of the mercurial dresser and the metallic or basic "house" is ever produced, there will be molded from it the millennial infant who will lead the recumbent lion and his concomitant lamb, and at whose intimated desire the leopard will hypothecate his spots, and the Ethiopian will become as snow. Utopia is but a dreamer's fantasy, but if its unsubstantial denizens could materialize, they would prove to be of the dresser-house composition.

In a few instances the interne has given a practical demonstration of the Buddhistic doctrine of transmigration of souls. That is, in lieu of annihilation or return to ordinary existence after the completion of his internity, he may choose the other alternative—occupation of the body of a junior, or even of a dresser, appertaining to a band in the same, or in another confederation. Thus the renaissance of a medical "house" may be the spontaneous generation of a surgical junior, or the homeless soul may animate the body of a gynæcological, an orthopædic, or an ophthalmological junior. In rare cases it may—after threading the labyrinthine mazes of the necessary examination and demonstrating its ability to write the equation of the asymptote of a rising "in-shoot," and to calculate the parallax of the orbital path pursued by a given political organization in its homeward march from a barbecue just prior to election day—attain to the Nirvana of the army or navy service, and retire from the vanities and vexations of private practice. Under such circumstances, the interne becomes a different creature. To-day he is here, to-morrow he may be hence. But he becomes an adept in occult lore, through much study of the Vedas, as edited by the Brahman Schenck, so that he fills his triply-curtailed flush, or acquires a quartet of monarchs when he had retained a lonely ace, by virtue of an unerring, theosophical power, which both mystifies and impoverishes his old comrades when he subsequently mingles with them.

Whatever the religious faith, if it may be so designated, of the band of which he was formerly a member may have been, the soul of the ex-interne may transmigrate into the body of a house surgeon of a private sanitarium, there to wallow in the *otium sine dignitate* of a salaried position. In such case he is more or less incombinable, and has no associate senior or junior. He is in no wise divorced from his social instinct, nor is he deprived of his mild and easily domesticated nature, but a curious change is wrought in his character by his altered environment; and as the tiger becomes more ferocious and particular as to the *menu* of his daily meal after he has once tasted human flesh, so does the interne, who has once felt the joy of pouching a regular monthly stipend, even if the same be of but nominal dimensions, chafe and fret under the yoke of unrequited labor. Thus, if by some anomalous combination of circumstances, some fortuitous paradox, an interne who had first opened his eyes in the fragrant clover-field of a salaried position should transmigrate into the body of an every-day junior, he is prone to sundry kickings and buckings whenever the surcingle of his pack-saddle is drawn a thought too tight; and often he cavorts or balks until he experiences the mechanical efficiency of a closely drawn lariat around his neck, or the persuasive effect of a small bonfire which has been kindled under his abdomen by the minions of the established government. But after an involuntary resort to hydrotherapeutics, such as repeated draughts of the waters of Marah, he becomes more tractable. The water is astringent, as well as hydragogue and diuretic, and under its influence the anasarca which always affects his estimation of his own importance rapidly disappears; it corrects astigmatism and all errors of accommodation, thus enabling him to accurately see what is his true position in the hospital; the concavity of his dressing-case mirror is corrected at the same time, so that he puts less "side" on his *coiffure* when he makes his morning toilet; it allays gastric irritability so that the patient acquires an ostrich-like ability to digest the most leathery of humble pies, the gamiest of crows, or the earthiest of dirt with the calm *insouciance* displayed by a Harlem goat as he battens on chromo-lithographic circus posters and succulent scrap iron.

The condition superinduced by a previous exposure to the deleterious influence exerted by the habitual receipt of a salary is spontaneously removed by the change of climate afforded by a journey to the frigid zone of incipient private practice. The ex-interne toils with extreme intensity of purpose, accepts an infinitesimal fraction of a righteous compensation, and not only accepts it, but thanks God for it. If corks are found near his habitation, they are no longer bulbous at the top and innocent of the fistulous track of the cork-screw, but are cylindrical and perforated. His shoes are delivered on the same day on which they were ordered, and he sometimes is seen arrayed in garments which were but a few short hours before draped upon an impossible manikin and decorated with a conspicuous numerical label, displayed upon their anterior aspect, in front of the temple in which is unity of price and continual sacrifice of chemically pure wool.

On festive occasions, such as natal anniversaries or the Mardi Gras of the collection of a bill which he had long before classed among the lost tribes in his ledger, he does not, as of yore, don his wedding garment, go in solitary state to Delmonico's, and there insufflate bank-notes blazoned with one or two saltires in cold and uncongenial corners. No; seeking the friends of his native Bohemia, he repaireth to the unconventional Italian *table d'hôte*, where the coat can be removed if desired. And the flavor of the vermicular, convoluted *spaghetti*, and the indefinite bouquet of the *ordinaire*, are more precious to his soul, when one "plunk" a head represents the extent of his retrusion, than the most elaborate and unpronounceable creations of a *Cordon Bleu*, and the delicate perfume emanating from the basket-supported, cobweb-festooned flask of ancient Chambertin of his former affluence. Truly the meal bought with the dollar wrung from the denizen of Mulberry Bend, even though it be but a "slaughter in the pan" or "one brass band without a leader" in the *salle à manger de* Beefsteak John, is more to be desired than the state banquet of many courses and ghastly formality when unearned by honest toil.

Thus it will be seen that the interne has made a discovery after his hospital life has been finished. He had thought to go out into the world a jeweled-winged butterfly, and when he had seen but the reflection of a small, neutral-tinted miller in his new office mirror, he had been inclined to impugn the honesty of its reflective actions. But only for a season; for after one or two rent days have, *æquo pede*, called upon him, and the fœtid breath of the wolf has been wafted to his nostrils through the key-hole of his office door, he "puts his hands on his mouth, and his mouth in the dust, and cries Unclean! Unclean!" But he does not send an account of his discovery to the daily papers of Gath, nor does he decorate the bill-boards of Askelon with lurid posters, setting forth the statement that, by act of Legislature, his name has been changed to Dennis. He usually keeps up appearances by means of cunningly devised fables as to his geometrically progressive practice, and as to the severely strained condition of his coffers resulting from the large number of princely fees which are forced upon him. He says but little of the work he does for other men; of the givings of ether; of the sittings up o' nights with old Blank's patients; of the chemical and microscopical examinations he makes for his elders; of any of the various pot-boilers which are so welcome to the young practitioner with a phantom practice. He may invite one of his former helots to dine with him at a fashionable restaurant, even though each pop which marks the piercing of an amphora means to him a Barmecide dinner for three successive days. To do him justice, he soon accepts the lesson with all humility, and gracefully endures the transition from his late existence as a proud eagle which gazed upon the blazing sun with never a quiver of his nictitating membranes, and of which the talons were never polluted by aught but newly slain quarry, to his present station of a carrion-eating *attaché* of the Board of Health—a cacostomatic buzzard. He will often visit the scenes of his former greatness, and will good-humoredly rail at his successor, doing his best to enlighten him in regard to that he will experience in the future.

So much for the general race characteristics of the interne. But each of the three stages of his development is marked by distinctive features, which must be mentioned if our description is to be of any value. The fact that historical data had been acquired was mentioned at the beginning of this paper, and I will state that these were accidentally discovered by myself while looking at an old vellum-covered tome in one of our hospital libraries, between the leaves of which had been placed some sheets of parchment, yellow with age, and which proved to be dis-jointed fragments of a diary. Certain initials, and the title of Junior Walker of the New York Hospital, with the date 1789, are appended to these entries; and, though little save the impressions which the author acquired as junior are found, the general tenor of what he did record seems to justify the view that I have taken as to the absolute identity of the characters presented by the interne from ancient even unto modern time. If, now, we describe the interne as we see him in his progress from the cradle to the grave, and then examine the recorded opinions of his prototype, this identity will be most evident.

The irony of fate is manifest at the very beginning of the junior's career, for, until very recent times, he was officially born on the first day of April in fifty per cent. of recorded cases. Notwithstanding this ominous fact, he is enveloped in a rose-colored cloud, which emanates from the consciousness that he has done himself great credit, that he is the cynosure of the envious eyes of his fellows, and that he is regarded by his elders as an infant phenomenon. He casts side glances as he walks through the halls and wards of the hospital, that he may not fail to catch the admiring looks which are directed at one so distinguished but yet so young. He is greeted with cordial politeness on the first day. The "house" explains *in minutia* all the interesting features of the various cases. The senior kindly shows him how to take histories and the technique of dressings, as well as instructs him as to the routine duties which he has to perform. The office makes much of him, and everything he sees is in chromatic accord with his rosy cloud. He never dreams that the "house" and the senior are testing his capacity for doing their work, sizing up the probable amount of the same which they may be able to foist upon him; but he toils on with no feeling save that of gratitude to them for the opportunity they have given him, and his heart is as hydrogen. The second day finds him weary but enthusiastic, and groping in a faded pink cloud. He has met with a few evidences of the actual state of affairs; and when at last he is hailed by the ignominious name of "scrub," the cloud—now only a rusty mist—lifts, and by the aid of the light thus afforded he eviscerates his doll, only to be cruelly undeceived as to the character of its works, and to find that its *embonpoint* is due to sawdust alone, while the iron penetrates his soul to the depth of many cubits. But, by the time he has recovered from this shock, there may have arisen a cold wave in the circumambient atmosphere, due to the thermal inequality of "house" and senior, which often chases the mercury so rapidly into the bulb that, ere one moon has through much waning consumed its stock of wax, he has, through the kind patronage of the house, grown so sleek and fat on the crumbs which fall from that plutocrat's table that he is well able to dispense with the kindly but septic offices of his ministering dogs, and to relegate them to the service of some of the ward patients.

But, in case no cloud arise between his masters, he, nevertheless, reacts well from the shock of his rude awakening. Even the discovery that he needs more than can be acquired by laboriously memorizing wire-drawn distinctions as exhibited in that apple of his student eye—the "deadly parallel"—when he must decide the question as to the existence of a fracture or of a sprain in a given case, or as to whether the wrestler's "bridge" formed by the slender form of a rigid and uncommunicative lady be a resultant of the concentrated energy of tetanus or strychnine, or of the airy, pranksome frivolity of hystero-epilepsy, does not necessarily drive him into the dreary, trackless wilderness of cynical skepticism. On the contrary, he becomes of a more chastened and fusible character, so that, sooner or later, he discovers the fact that he can learn something which he has not already forgotten, thus ultimately becoming a thing of practical utility. But, although he may give up the idea that the key which will interpret the cabalistic symbols presented by the mystic cryptogram of disease is in his possession in the form of sundry mnemonic phrases—such as "Pat hands require subtlety of intellect," as an easy re-reminder of pain, heat, redness, and swelling of inflammation—he clings with the desperate grip of a drowning man to the belief that no physician who has never enjoyed a hospital service can be other than an ignoramus and a poor dabbler in his art. Therefore the junior magnanimously patronizes all such unfortunates, shows them all the hospital, and talks of "his service" as "fairly good"; sends them cards of invitation to operations, often absent-mindedly signing his own name instead of that of the "house," and in divers ways instructs, awes, and amuses them.

The junior, however, has the power to air his glory in a more indirect manner than the peacock-like proceedings just described. He assumes an air of infinite weariness and a this-is-such-an-old-story-to-me indifference under the most startling and unprecedented circumstances, thereby pulverizing the populace. Had an ambulance been summoned at the time of the horrible tragedy in the mystic cavern where roared and flamed the Pillar of Life, the junior would have fearlessly leaped the chasm, penetrated to the scene of the awful catastrophe, and, after a hasty examination of the shriveled, sickening, hideous thing at his feet, would have taken out his watch to note the instant of arrival. With a careless glance at the roaring, whirling column of fire, as it crashed through the narrow crevice in the rock, he would have asked of the trembling Holly the pedigree of the deceased and if she had any friends, filling out his ambulance blank as follows: Name, "She." Nativity, unknown; age, 2,000 years; civil condition, grass widow; occupation, queen. Diagnosis: General senile atrophy; burns. Arrival, 6.10; departure, 6.14. Remarks: No case; patient dead on arrival.

Turning to go, he would in perfect unconcern have said: "Rare case. Have only seen two like it and I have been on duty for three months. Good afternoon, gentlemen. I must be off, as there must be several calls waiting for me," and have hurried to the open air. Pausing for a moment to light a cigarette at the flame of a blazing mummy, on which he had bestowed one look of weary *ennui*, followed by a listless wink at a pretty girl in a leopard-skin dolman, and declining, on the plea of pressing duty, the cordial invitation of the leaders of the Amahagger Four Hundred to attend a select hot-potting *soirée* in a neighboring cavern, he would have called out to the driver: "Let her go, Larry!" and, as the ambulance gathered headway, he would have seized the strap, placed one foot on the back step, and swung himself into his seat, casting a languid, far-away look at the crowd; and, by the way, the junior would no more dream of mounting to his seat before the ambulance had started than the conscientious "tiger" would forego his scientific climb into the rumble of a flying dog-cart. He regards the agile vault in the light of a point of professional honor, and the junior who deliberately ignores its observance can be nothing but an inexperienced and loathsome substitute, or a menial, self-despising dresser who has no ambition to lift himself from the mire of his degraded station.

During the first two fleeting months of his life the junior experiences a taste of unalloyed happiness. He is prone to indulge in complex methods of administration of electricity, noting the cathodal and anodal reactions minutely; in the invention of sundry intricately constructed surgical apparatus; in the seeking for obscure and uncommon physical signs in cases of the simplest character, like the habitual infrathoral observations, relative to the detection of the man who never materializes, which the maiden many-summered, unprotected, takes just prior to unloosing the snood from her hair and offering her vespertine orisons. The "house" is his god, whose slightest word is to him as is the ukase of the great white Czar to the Russian serf. He feels deeply every slight put upon his idol. Indeed, it may be said that when the "house" is struck the junior detonates. He regards the senior as a lesser light, but withal a very superior person; and, whether or no chlorotic envy or cyanotic wrath has created red war between his colleagues, he is friendly to both, and is well beloved of them.

But the time cometh when the quantitative analysis of urea and of glucose palls upon him, and the sound of the faradaic vibrator is a weariness unto his spirit; when the pen groweth heavy in the copying of the histories, and the vesical irrigations and the giving of ether are sorrow; when the midnight binding up of the scalp wounds which come for succor when the pitcher is broken at the fontanelle, and the wheel is broken at the cistern that its spokes may be utilized as weapons, is bitterness; when the grinds upon him cease not from their grinding, because they are many, and when the blindness falls from his eyes as it were scales. The junior has solved the problem of his being. He is the scrub, and he knows it. He has reported the case of ultra-"civilation" as one of opium narcosis when he brought it in on the ambulance. He has wonderingly gazed upon the weird, eerie, mazy evolutions of that "charm of woven paces and of waving hands," which for years has been good for a free ride and a night's lodging, when wrought on a new junior by that experienced and rum-epileptic Vivien, whom intimate friends call "Green Point Blanche," and has been sadly mocked when he awoke the house to breathlessly announce his acquisition of a case of Ménière's disease complicated by uræmic convulsions, after that official saw and recognized the patient. He becomes of a non-committal habit, nor lifts he up his voice in the synagogue. The "house" and the senior may victimize him by means of the joke practical: he turns the other cheek to the smiter. They may lead him to stultify himself in various ways: he sayeth no word of wrath. Meek and lowly, humble and mild, inoffensive and obedient Job that he is, he only curses his own folly and lives—lives to cleanse his teeth of the dust into which they were driven when he bit so greedily into the rosy-cheeked apple of Sodom after which he had lusted, and which he had gained at the cost of his own self-esteem.

The junior appertaining to a band which is infested by a dresser is not, however, so quickly disillusioned, if, indeed, he ever become fully cognizant of his true value in the economy. He has an equally unsophisticated companion, synchronous with but subordinate to him, on whom he is able to foist many of the distasteful tasks he otherwise would be obliged to perform. Again, the epithet of "scrub," when propelled at such a junior, merely grazes him, and then, with the graceful curve of a *massé* shot, impinges upon the dresser at the mathematically exact center of his official personality. Now this is a great boon to the junior, and is of but the most trifling moment to the dresser; for the latter is born with a precocious knowledge of his own insignificance. He knows that he has been placed where he is to serve just such a purpose, and he is therefore most careless of his dignity.

There is one brand of junior—fortunately not often seen—which is possessed of an anomalous gastric pride as well as a disinclination to sublet to its fellow-creatures enough of the universe to permit of an even moderately comfortable existence. Such a freak has a gruesome juniorhood; and, if he be not completely filed away by the rasping, gritty grindstone to which his nose has been forcibly applied throughout the dark days of his seniority, he has a tempestuous voyage when he stands at the helm as "house." He usually acquires a large, angular, saw-toothed grievance, which he takes away with his other possessions when he shakes from his feet the dust of the hospital door-step—to the unspeakable relief of all with whom he has been associated. He sneers at the "attending"; reprimands with crushing severity the nurse who has unwittingly committed a trifling error; changes the treatment of all the patients when deputed to make rounds for his "house"; feels himself unwarrantably insulted when he is reminded that his authority is only a faint reflection of that of a temporarily absent superior, who himself has, at best, but a mere fictitious echo of a voice in the management of the hospital; wins the sincere, whole-souled ill-will of all, from the Dan of the servants' quarters to the Beersheba of the superintendent's office. Theoretically, a proper regard for professional dignity is laudable; but when one imagines that persistent kicking against strong, thick-set, spring-tempered, copper-fastened, triangular Damascus steel pricks can result in aught else than destruction of shoe-leather and injury to toes, he acquires the reputation of possessing an intellectual capacity nearly equal to that which is enjoyed by the dodo or the pursued ostrich. Sooner or later he receives what he sorely needs, and, moreover, it is presented to him in the cervical region, where it can exert its beneficial influence to the greatest possible advantage. This makes or breaks him; and he either becomes a sadder and a wiser man, or reaches that mental condition which the Deity is said to regard as a fitting preparation for dissolution in the cases of those whose decease He ardently desires.

The senior is of an ascetic habit. He has his tub, not only for sleeping purposes, but also for use as a cloister or padded cell, to which he may habitually retire in seasons of great mental depression, and indulge in bilious reverie or active delirium without fear of interruption or bodily injury. The senior is a misunderstood, aggrieved, and persecuted genius. Endowed with brilliant talents, profundity of intellect, rare abilities, and infallibility of judgment, he possesses in addition a breadth of knowledge and a plenitude of attainment which none save another senior can hope to rival. But, despite all this, his soaring spirit is chained by the leg in a contracted, iron-fenced inclosure, and is only held up to ridicule or touched up in sensitive spots with a red-hot poker if it shows a tendency to disregard the limitations which have been placed upon the extent of its flights. He usually digs a deep and many-angled hole in the most remote corner of this corral, at the further extremity of which burrow he places his tub. He retires to this subterranean recess whenever he is overwhelmed with mental anguish, pulling in after him the aperture of entrance, and there broods over the "sorry state of things" under the administration of the "house"; of how much better he could himself manage; of the great disappointment he feels that he was so mistaken as to the man who had been so promising a senior; of his own degradation in recording absurd diagnoses and countenancing preposterous malpractice with never a protest; of how he could show certain lurid idiots how to run a hospital had he but one opportunity—he not insisting on the said opportunity being golden—oroide would suffice.

Here also he sets up a loom and weaves a fabric of rare beauty, deftly broidering into its warp and woof a pictured scene of future events as he glances at the polished surface of the magic mirror he has made, and sees the reflection of the towered castles and stately palaces of the distant city. He sings a charmed song as he works, and, intoxicated with the words and melody, as the woven figures grow under his skillful manipulation of the flying shuttle, he lives in fantasy until he well-nigh believes those variegated shapes before him to be real and animate. But in the midst of this ideal existence the house may gird up his loins and evaporate for a season in order to recuperate and recover from the brain-fag acquired from the labor of running the hospital. Then it is that the senior sees the image of the doughty knight in his mirror, starts up, and looks down toward Camelot. But his faith in the absolute accuracy of mathematical propositions is sadly shaken, for the angle formed by the incident rays proceeding from that city by no means equals that of those of reflection which he has for so long a time admired, and of which he has builded many an Andalusian castle, as he wrought at the loom. For, as he makes the rounds on the first morning of his vice-regency, he fancies that the junior wears a suspiciously smug and waggish expression of countenance indicative of an underlying ironical *facies* which would be manifest were its enamel scratched by some pointed occurrence; and then he remembers how he felt when he had officiated as acting senior. He distrusts the marked deference and reverential homage displayed by the nurses—*timet Danaos et dona ferentes*—and starts as at the sting of a viper when the words "Methinks the lady doth protest too much" are hissed into his ear by some malevolent imp of Satan. Somehow he does not find it necessary to make many changes in the treatment instituted by the absent "house," and he actually finds himself, from force of bad habit doubtless, treating new cases after the plan usually pursued by the same functionary. His opinion of the "attending" is suddenly elevated, and he can hear the dull, nauseating thud with which the pigment from his hair strikes the floor when a queue of nurses forms at his door, each one bearing a blank diet sheet, which she wishes him to fill in according to his own ideas on dietetics. This unchristian behavior soon cows him, for he has but the faint umbra of a supporting leg after the first resigned prophecy that poor Casey would need little nursing or anything but a shroud, now that his full diet had been cut down one half; and the second mournful hope that grave complications might not be the result of depriving Gilhooley of his matutinal eggnog renders him plastic as putty.

But he may, animated with a desire to test the balance and swing of his new scepter, arrogantly invade the office with tail in air, rampant, lashing, and issue a command or two, demand an explanation, or explode a few denunciatory bombs. Subsequently a thin, ribbon-like plane surface of but two dimensions oozes out through the crack under the door, as it gathers itself together, takes on itself the form and face—but not the same spirit—of the brevet "house," who had just before entered on carnage bent. Then does he mechanically saunter into his hole, see the cracked mirror, trip up as he catches his feet in the tangled, unraveled web, take in the situation, and cry out in his great agony, "The curse has come upon me!"

But he sings no swan song, takes no boat ride, yields up no ghost; and by the time the "house" has returned he has patched up with cement the shattered mirror, and has commenced to weave a fabric of more intricate and ornate design than the first, singing meanwhile a more weirdly modulated measure than before. And, further, when again the glistening sheen of the golden greaves of bold Sir Launcelot is flashed in complicated glamourous sheaves of yellow light by the seamed mirror, he sits still, crooning out an "Ah there! stay there!" to the distorted image, murmuring under his breath, "I'm onto *your* curves, Peter," and bestows not himself on anything without an adequate compensation.

But with all his uncharitable and rebellious feeling toward the "house," the senior is openly submissive. He rebels against the individual, not the office. Loyal to the principle, he in no wise fails to pay due homage to that "divinity which doth hedge about a sovereign," and on bended knee he respectfully kisses the hand of his anointed king, even though he is forced to rush into his padded cell at the next moment. With all his nomadic tendency to jump the claim legally held by the "house," he is comparatively amenable to inhibitory influences. Thus, if he is subjected to the same plan of treatment by which Ed'ard Cuttle, Mariner, was wont to develop the latent excellencies of his cherished chronometer—"put him back about half an hour in the morning and another quarter toward afternoon"—he, even as that standard instrument of precision, will be "ekalled by few and excelled by none."

Thus does the senior spend his "spangle of existence," and bide his time. So, when the change comes, and nurse and patient cry "*Le Roi est mort; Vive le Roi!*" he has so remodeled the design and modified the rainbow tints of the embroidery of his woven fabric that it serves quite well the purpose for which it was manufactured. True, it becomes threadbare and faded in spots, and here and there unsightly darns are visible; but none of these blemishes are seen save where the pattern had been fantastic of design and gaudy of color. It will make a very serviceable gabardine to protect him from the cold, sleety rain in the early spring of private practice, if he is wise and uses all the damaged and faded portions for linings and pockets; and often it may last for years, remaining a very presentable garment even then, if it is occasionally sponged and rebound.

Mr. Martin Farquhar Tupper has sung, "One star differeth from another in glory, but the soul is immortal." This insinuation was unaccompanied by any map, plan, or specifications which would at all aid his subscribers in their efforts to compass that postulate. With the confidence inspired by such an illustrious precedent, I will venture to state that one "house" differeth from another in his service, but his experience is a liberal education, and will not demonstrate the truth of the statement in a long-winded corollary or bird's-eye view of the subject. Suffice it to say that, with the exception of his thorn in the flesh, the senior, his traits are analogous to those of the junior, but naturally of a more advanced and chastened character. He has the conventional senior of refractory and unsympathetic composition, the idolatrous junior, and the cold, indurated, iconoclastic experience. Three hats—large, small, and medium in size—are usually purchased by him in the order named, and are worn in turn *pro re nata.* The second size of these, the small one, is worn during the second or third week of his life, and is often made yet smaller by the tucking of paper under the sweat-band just before he leaves the hospital, at which time the stern fact that his time of departure is at hand dawns upon him. He is somewhat *blasé*, not with the fictitious indifference, born of the desire to appear experienced, with which the junior paralyses *οἱ πολλοί*, but from a genuine weariness resulting from a hard year and a half of work. But he needs the small hat, for to this feeling is added the vague dread of a start in life without the prestige of a great institution at his back; without the feeling that the king may do no wrong; without the autocratic power to say "Do this, or go elsewhere"; with nothing but a square foot of standing-room and a greased pole to climb, and with only the sand he may acquire by his own labor to rub on his hands that he may not lose his hold and slip down. But large, small, or medium as his hat may be, he must go, and he at last, whether in joy or in sorrow, folds his tent and is not.

Such is the generalized life history of the interne as we see him to-day. His atavism will be clearly demonstrated by the following extracts from the manuscript of which I have made mention. Ah! how familiar some of these century-old remarks seem!

P. D. Q.

Y$^E$ JUNIOR WALKER *of y$^e$* HOSPITAL
*in y$^e$* CITIE *of* NEWE YORKE.
HIS DIARIE.

*Aprile y$^e$ Firste, 1789.*

Being nowe a Junior Walker in y$^e$ Hospital I am nigh unto Consumed with Awe of Myselfe, and am hard Pressed for y$^e$ Meanes by y$^e$ w$^h$ I maye shew y$^e$ Homage due to my Station.

Conceiving in mine Understanding that Manie will be of y$^e$ Desire to Knowe of my Careere, I have made y$^e$ Resolve that I shalle Keepe a Journalle or Diarie in y$^e$ w$^h$ maye be in truthfulle Wise set downe a Recorde of y$^e$ Deedes and Thoughtes of my Life: for in soothe I am of y$^e$ Intente to become y$^e$ Leading Chirurgeon of mine Age, and so, at y$^e$ Beginning of my Course, I will make Shifte to explain in Briefe y$^e$ Manner in y$^e$ w$^h$ I have gained mine Exalted Position.

Having after vaste Consumption of y$^e$ Midnighte Oile and eke divers Packetts of y$^e$ Herbe Tobaccoe made Bolde to come before y$^e$ Examiners, I did appeare to Them (by y$^e$ Grace of God and y$^e$ furtive Use of y$^e$ Inscriptions y$^e$ w$^h$ I had been Subtile enow to make upon y$^e$ inner Sides of mine Wristbands) to be One of huge Learning, and y$^e$ Examiners did saye y$^e$ one to y$^e$ other: "*Bene, bene, bene respondere. Doctus, dignus et entrare*," or, at y$^e$ Leaste, what did sound like unto those Wordes. They did then give unto me a Scrolle of faire Parchmente, bearing a red Seal and eke a Blue Ribbande, and on It was ywrit a manie of Wordes in y$^e$ Latine Tongue, y$^e$ w$^h$ I have often made Shifte to Reade, but It dothe alwaye let me Out. By y$^e$ Virtue thereof I was made a cunning Man of Science, and was e'en Licensed to Slaye without Stinte; but natheless I did Caste about me to Learne how I shoulde Discerne between y$^e$ Jaile Fever and a Sun Stroke or e'en y$^e$ Differences y$^e$ w$^h$ do be between a Linch Pinne and a Hickie. So I did take Counsel with Myselfe and arraying Myselfe in a Pinke Shirte and a White Collar, I did go unto a Quizze Man, who did so Cramme or Loade me for Beare (as y$^e$ Saying hath it) with divers Questions and y$^e$ Answers thereto, that I did with such Judgement and so Artificiallie replye unto those y$^e$ w$^h$ were Propounded to me by y$^e$ Physitians and y$^e$ Chirurgeons of y$^e$ Hospital, that they did Appointe me to be y$^e$ Junior Walker, Lord of y$^e$ Elaboratorie and y$^e$ Engrosser of y$^e$ Archives above a great Manie of other Men who did come before Them. From this lofty Ranke I shall ascende yet Higher, and then shall go out into y$^e$ Worlde, y$^e$ Shekelles whereof I shalle, in soothe, gaylie Rake in.

*Aprile y$^e$ Fourthe.*—Mine Honourable Ranke doth not seeme of y$^e$ Dignitie I had at y$^e$ firste Opined, for y$^e$ Howse and y$^e$ Senior Walker do addresse me as "Scrubbe," and do seeke to Balle me Uppe by luring me to make a Diagnosis of y$^e$ Distempers and y$^e$ Hurts y$^e$ w$^h$ do affect y$^e$ Patients. And but y$^e$ Nighte before y$^e$ Laste y$^e$ Howse did cause me to be Arowsed from my Sleepe that I mighte catch a large blue Ptomaine y$^e$ w$^h$ was said to have Entered y$^e$ uppermoste Warde and eke to be Sorelie Vexing yᵉ Patients therein. I did putte forthe alle mine Agilitie and did hie me nimblie unto yᵉ fifthe Floore, but I did finde no Beaste save onlie One, yᵉ wʰ was upon mine owne Necke and wʰ was of a Graye, rather than of a Blue Colour. But when I did heare yᵉ Howse and yᵉ Senior making Merrie yᵉ one with yᵉ other, I did graspe yᵉ Situation, and did perceive that I had been Beguiled. So I did seeke againe my Bedde with a heavie Hearte.

*Aprile yᵉ Tenthe.*—Yesterdaye I did go out for yᵉ firste Time, and did come back with a Jagge upon me. Being oppressed with Weariness of Bodie and yᵉ grieviousnesse of yᵉ Jagge, I did falle to sleeping on my Bedde before that I had Undressed. And when I did Awake after a Season I did perceive upon my Pillowe, and eke hanging downe to yᵉ Floore, an Exceedinglie monstrous and loathesome Tape Worme, yᵉ large Ende whereof did lie near unto my Mouthe even as if I had Caste it forth in my Slumber.

What with yᵉ Head I did have in lieu of yᵉ Jagge and yᵉ unsavorie Fashion of yᵉ Appearance of y Worme (yᵉ wʰ was above three Fathoms' Length), I was exceeding harde put to It lest I should Incontinentlie lose my Grippe and e'en faile to Keepe mine immortalle Soule from Coming forth from me, and I was eke sorelie Discomfitted that I shoulde have had yᵉ Worme and that I should have in such Wise been Ridde of Him. But I straightwaye did remember that I did that Morning aide yᵉ Howse in yᵉ Taske of giving unto a Patient who had a Worme an exceeding nauseante Potion, and by thus taking Thoughte I was in a Measure comforted, for I did take Hearte at yᵉ Thoughte that yᵉ Worme had strayed from yᵉ Warde and was not of mine owne Raising. Eftsoones I did remove Him, and did straightwaye falle Asleepe. But on yᵉ Roundes yᵉ next Morning ye Howse did aske of yᵉ Patient, whereof I did Speake, if peradventure Anything had been lost bye Him during yᵉ Nighte, and did looke at me in a coverte Manner. Wherefore I am of yᵉ Belief that yᵉ Worme had been Observed at yᵉ Time he had entered my Roome, or haplie he had been laide upon my Pillowe by yᵉ Howse or yᵉ Senior. And I did become so Shamefaced at yᵉ Thoughte that all but yᵉ two Wagges did Marvelle at yᵉ Blushes to yᵉ wʰ I was Putte.

*Aprile yᵉ Twenty-fifthe.*—I have been sore Distressed by yᵉ recente Gettinge of an Engine, by yᵉ Use of wʰ alle Woundes and yᵉ Like are to be straightwaye Healed, and yᵉ Chirurgeon who dothe Employe yᵉ Thing shall have no Feare that any Eville can be caused by his Operations. Yᵉ unholie Machine dothe cause a ranklie stinking Miste, or Spraye, to be spreade about, and yᵉ same dothe grieviouslie Benumbe yᵉ Fingers, and dothe sorelie vexe yᵉ Eyes and yᵉ Nostrilles of all Them wʰ do be nighe. And then yᵉ Chief Chirurgeons do Mounte upon yᵉ Necke (and eke stamp thereon with yᵉ bothe of their Feete) of yᵉ unhappie Wretch who dothe Suffer yᵉ Spraye to be Diverted from yᵉ Wounde even for yᵉ Space of a Momente. It hath been made yᵉ Taske of yᵉ Junior Walker to prepare and to furbish up this Foole Thing, and I can beare Witnesse to yᵉ Sorrowes yᵉ wʰ do come unto him Therebye—for yᵉ accursed Thing dothe alwaye acte in Perversenesse, and will not do that yᵉ wʰ it was Designed to do, but will ofte incontinentlie vomit forthe Seething, Boiling Water in lieu of yᵉ Miste, thus causing yᵉ Fingers and yᵉ Face of yᵉ Junior to be alwaye in a scalded Condition. Albeit I be thus perforce yᵉ Bond Slave of yᵉ Lampe (for yᵉ hellishe Contrivance is made to Worke by yᵉ Heate of a Spirit-Lampe), I can do with It but That yᵉ wʰ I desire not to do.

*Maye yᵉ Firste.*—Yesterdaye one George Washington was Inaugurated yᵉ Presidente of yᵉ Countrie, and yᵉ Towne was plenteouslie Bedizened with yᵉ garish Hue of Scarlett. Yᵉ Howse and yᵉ Senior were harde Putte to it to binde uppe yᵉ Woundes of alle Them yᵉ wʰ I did bring in on yᵉ Ambulance. I did gette one Loade of VI Blacks of whom Each by Himselfe did saye that he was yᵉ originalle and yᵉ Onlie genuine Bodie Servante of yᵉ Presidente. They had discussed this Theme among Themselves with Razors, and did Seeke to continue yᵉ Debate in yᵉ Ambulance, but I made Shifte to Close yᵉ Argumente with yᵉ Stretcher Iron, and did Fetch them Alle in Alive. In yᵉ Evening yᵉ Howse did go to yᵉ Inauguration Banquet and did come Backe presentlie in what yᵉ Senior did saye was a State of "Razzelle-Dazzelle" (whereof I knew not yᵉ Meaning before that yᵉ Howse did violentlie protest that He woulde Trepan a Patient who did loudlie Snore, saying that yᵉ Man did languishe under a Compression of yᵉ Braine). We did make greate Haste to let Him above XII ownces of Bloode, and did presentlie gette Him to Bedde with an Ice Cap on his Head, notwithstanding that He did bitterlie Revile us.

*Maye yᵉ Tenthe.*—Yᵉ Howse and yᵉ Senior do seeme to be of some Coldnesse yᵉ one to yᵉ other, and yᵉ Howse dothe give to me Toes and Fingers to Take off. I do heare that there is to be Appointed for a Season another Man on yᵉ Staffe, for yᵉ Worke at yᵉ presente Time do be exceedinglie grievious for onlie III Men.

*June yᵉ Thirde.*—Yᵉ Howse and yᵉ Senior have Spake not yᵉ one to yᵉ other for yᵉ space of above II Weekes. Yᵉ newe Man hath Come, and I do gleefullie Girde at Him, and do saye "Scrubbe" unto Him. In soothe I do cause him to attende to yᵉ devillishe Engine wʰ dothe make ye Miste, and divers other Things yᵉ wʰ I do Loathe. I am of yᵉ Minde that there do be yborn a Sucker at everie Minute, for trulie he dothe Smell aboute him and dothe digge up a Baite if haplie there do be none in Sighte. I did work offe yᵉ olde Ptomaine Fleere upon him and when I did send him to yᵉ Dead Howse that he should take a Temperature, he did come to me and did saye Indignantlie that yᵉ Orderlie had not given yᵉ Patient any Bedde Clothes save a Sheete, and that yᵉ Thermometer was out of Order and woulde not Register at alle. I was Faine to Spring upon him yᵉ Tape Worme Pleasantrie, but when I did make Shifte to fille him Uppe, I did myselfe Falle downe by yᵉ Wayside, so that yᵉ Scrubbe did even put me to Bedde.

*Auguste yᵉ Sixthe.*—Yᵉ Howse hath gone awaye for his Vacation, and yᵉ Senior is playing yᵉ Devill and Thomas Walker with yᵉ Service. Yᵉ Scrubbe dothe Improve in manie Wayes, and I do begin to think that he assuredlie is a Daisie.

*September yᵉ Seconde.*—Thanks be unto Heaven, yᵉ Howse hath Returned, and yᵉ Senior hath been putte in his proper Place. Albeit I am againe doing Menialle Worke, I am prodigiouslie rejoiced in that y$^{e}$ Howse is here.

*Januarie y$^{e}$ Seventhe, 1790.*—For above y$^{e}$ space of III Monthes have I been y$^{e}$ Senior Walker, and I have been yfilled with Amaze that I shoulde ever have deemed y$^{e}$ presente Howse to be Aughte better than a Chumppe. Y$^{e}$ Idiott did cause to be fed on Welshe Rarebittes a Patiente who had Swallowed some broken Glasse in a Museum, and despite y$^{e}$ Facte that I did give to him Crotonne Oile when y$^{e}$ Howse did go out y$^{e}$ firste Time, he did Die of a Peritonitis y$^{e}$ w$^{h}$ was Engendered by y$^{e}$ beastlie Diet y$^{e}$ w$^{h}$ he had been forced to Take. Y$^{e}$ Howse did saye that y$^{e}$ Crotonne Oile did Kill him, as if any Foole did not knowe that Cheese is Heating to y$^{e}$ Bloode, while y$^{e}$ Truthe was that I had been too Late to save his Life. We do not Speake to eache other nowe. Y$^{e}$ Chiefe Chirurgeon dothe strangelie Upholde him, and if much of this Fashion of doing Thinges dothe Happen I shall Resigne, for I can learne Nothing from them.

*June y$^{e}$ Eighthe.*—Y$^{e}$ Life of y$^{e}$ Howse is not that y$^{e}$ w$^{h}$ it has been Cracked up to be, but is of muche Wearinesse. I have fallen against y$^{e}$ Office, and am in eville Case therebye, for I did Hurte myselfe, and mine olde Howse did come in and did Raile at me, saying "Go to, woulde you Bucke against a Stone Walle?" Y$^{e}$ Senior is too Freshe, and I am in Soothe a Cursed Thing.

*September y$^{e}$ Twentie Ninthe.*—I am sorelie Distressed and Lowe in my Minde, for in II Dayes I must go Forthe and Grubbe for my dailie Breade. I woulde Faine become more Learned than I nowe am, for when I did aske y$^{e}$ Chiefe Chirurgeon for his Counsel in y$^{e}$ Matter he did Advise me to studie in Paris; and when I did Saye that I coulde not do Thus for Wante of y$^{e}$ essential Lucre, he did saye that he did think me to be of greate Promise, and that it was a Pitie that I coulde not take y$^{e}$ Position y$^{e}$ w$^{h}$ I shoulde in y$^{e}$ Profession for Lacke of an Education. I did then go to See mine olde Howse, and did finde him boiling y$^{e}$ Egges on y$^{e}$ w$^{h}$ he was to Dine. He did sportivelie saye that his Practice had just Died of a Phthisick, and that he was starting Anewe. When I did Telle him of That y$^{e}$ w$^{h}$ y$^{e}$ Chirurgeon did Saye, he did Crie: "Rattes! y$^{e}$ Olde Man is at it Againe. Come nowe, Offe with your Position in y$^{e}$ Profession, and Skirmishe for your Breade and Butter!" In soothe I did finde y$^{e}$ Walking soe Goode that I wente Backe to y$^{e}$ Hospital on Foote, and did not Hire a Chaire, as I had Thoughte to do. Y$^{e}$ Prospect is not of a pleasant Fashion, and I do begin to be Assured that I have been Diligentlie chasing after Rainebowes duringe alle y$^{e}$ Time I have been here. I do even be Envious of y$^{e}$ Dresser, and do perceive that y$^{e}$ Colde Daye on y$^{e}$ w$^{h}$ I shall gete Lefte is at Hande. I do be afeared that y$^{e}$ Situation will be yet more Gloomie to mine Understanding when I shalle be made to Viewe it in y$^{e}$ "Colde Graye Lighte of y$^{e}$ Morninge" of that Daye y$^{e}$ w$^{h}$ shalle be y$^{e}$ Laste of mine Life in y$^{e}$ Hospital.

The foregoing excerpts comprise all of the diary which is of any value as an evidence of the author's internity. I have omitted many entries, as they deal only with daily occurrences and do not reflect the opinions or character of the author. Some person had seen this manuscript within a short time, for I found upon the spaces which had been left blank by the author of the diary some annotations in a different and more modern style of language and chirography which I will quote in full:

Erudite in physiology and advanced bacteriology, the interne talks pathology 'till you're deafened by the din,
And of differences essential between high and low potential, and of diagnosis differential of diseases of the skin.
All the signs auscultatory, cardiac, respiratory, are arranged in category his active mind within,
From pyosalpinx gonococcic he gestation that's ectopic tells by murmurs metroscopic, and he knows when it is twin.
He knows pelvic cellulitis from acute oophoritis, and from hernia, adenitis, be the patient fat or thin,
Or a pachymeningitis from a poliomyelitis, and a typhloenteritis at its very origin.
And he knows an epileptic from a seizure cataleptic, and a coma apoplectic from one caused by drinking gin.
Also knows tuberculosis from actinomycosis, and how cnemoscoliosis doth distort the youthful shin.
He describes the diabolic agony of renal colic; how aphasia embolic rests the weary, jaded chin;
How luxated hip reduction you achieve by circumduction after ad- and then abduction, if with flexion you begin;
And of kolpoecpetasis, dysmorphosteodiaclasis, and of teleangeiectasis many startling yarns he'll spin.
Of nephritic amaurosis, also of symblepharosis, and of intermittent ptosis, which to winking is akin;
Of his skill in pædiatrics, and in modern psychiatrics; of *vis Naturæ medicatrix*, which the palm will always win
In the strife with mind revealers, and with Christian science healers, or with long-haired faith-cure kneelers, who say cancer is but sin;
With interviewers theosophical of Indian ghosts apocryphal, who from climates hypertropical come to practice medicine;
With those with eyeballs staphylomal, who in trances hippodromal voice the accents catacombal of some sainted mandarin,
Who prescribes, for use internal, roots you dig with rites infernal at the moment mid-nocturnal with a piece of rusty tin.
He detects each spinal lesion, every visceral concretion, from that ammoniaco-magnesian to that of pure cholesterin;
Describes the splint of his invention by which he keeps up firm extension, attaching rubber bands in tension to a stationary pin.
Armed with weapons stethoscopic, sphygmographic, microscopic, like a very philosophic, scientific palladin,
Seeks he ulcers duodenal; rends he pectorals trichinal; spears the abscess circumrenal with hypodermic javelin.
He's no Dædalus with wings rheumatic, who, as in the soup his son erratic learns a lesson aerostatic, flies low down with rueful grin,
But, like Icarus, he's sophomoric; his flight at first is meteoric, 'till solar beams so thermophoric melt from his wings their paraffin,

For the interne, ill-supported by his knowledge well assorted,
actually as sprains reported the first three fractures
he brought in.

Thus far only the foibles, the little failings, and the shortcomings of the interne have been mentioned, but I am loath to leave the subject with never a word as to the meritorious traits which are his redeeming qualities, and which serve as a cloak of charity to cover his nakedness, and as a damper to the sounding of his brass and to the tinkling of his cymbal. Living a life of practical beneficence, he sacrifices time, comfort, aye, and sometimes his health or even his life, to the service of his suffering fellow-man. Granted that he is actuated by a desire for self-improvement, and that he does but cast his bread upon the waters that he may receive his reward in the future; granted that an absorbing love for his kind is not an element in his charity; granted that he is callous and indifferent to the sentimental aspect presented by human suffering—his motives, or lack of motives, do not affect the practical results of his work. Moreover, he is sturdily honest in his bargain, giving his time and labor for his experience, and never asking for anything more—no, not even for the reputation of being a philanthropist. Is his unsympathetic ministration less beneficial to the pain-racked or mangled patient than the visit of the tailor-made, fastidious *dilettante* in charitable work, who amuses herself, satisfies her longing for excitement, and conforms to the latest fashionable "fad" by visiting the hospitals and by bestowing the faded flowers left from the night-before-the-last's cotillon upon "the poor unfortunates on whom the young doctors practice," or than the business-like, stand-and-deliver-your-soul-or-your-peace-of-mind consolation offered by a wooden-featured, saw-voiced church "capper"—the Dick Turpin of religion—who levels at his aching head a tract, loaded with cheering promises of future torments, and with such realistic descriptions of the flames and officials of Gehenna that it is a veritable literary *san-benito*, refusing all proposals of compromise? He works faithfully and to the best of his ability; sounds no annual trumpet of self-adulation, self-congratulation, self-appropriation of the credit and results belonging to the work of others; publishes no key-hole report of the achievements of the right hands of others for the sole information and benefit of his own left hand; makes no protest as he sees his own labor, his own good works accredited to the account of another; wears the collar of those who insult him with groundless suspicion, burden him with humiliating legislation, crucify him, after a star-chamber trial, on poor circumstantial evidence, or even no evidence at all, of misconduct on his part, and asks only to be left alone and to be treated with but negative courtesy.

Attending physicians and surgeons, ye who rule the interne, be just to him. Treat him as a younger professional brother, not as a bondsman. You have large flocks and herds; he has nothing, but is striving that he may obtain one poor little ewe-lamb, hoping to rear from that humble beginning a flock of his own in the future. A little consideration for his inexperience, a little pleasant instruction, a little friendly encouragement, are nothing for you to give, but are to him a priceless treasure. He errs not by design but through ignorance, and you should remember the notice posted in the Arizona church: "The congregation will please not shoot at the organist. He is doing the best he can."

And you, governors, who have for so long a time occupied a standing place on the neck of the medical profession that you overlook, save on one day of the year, the fact that you are dependent on your footstool for your position as public benefactors, why not be generous to the unrewarded laborer without whom yours would be but a phantom philanthropy? Ah, gentlemen, look well to it lest the evil day come when your pens shall be found empty, and your fields shall lie fallow because there are none to guide or to draw the plow! Some of you know what the lack of one poor junior means to your hospital. What if your whistle be not answered when you shall lack the entire staff? Worms have turned ere now when trodden upon too rudely, and there may be even now among the thralls who people your barracoons some modern Spartacus who shall incite a revolt that may put you to sore distress. Have a care, lest history repeat itself.

It was far from my design to treat this subject in a serious or a sentimental manner when I chose it, but I could not close my eyes to actual facts, nor ignore them. Laugh at the follies, sneer at the conceit, satirize the absurd pretensions of the interne as we may, still our hearts swell with an honest pride that we can truthfully say, "We have been hospital internes!" and I, for one, can add in the familiar, perhaps grotesque, but intensely human words of Colonel John Hay:

"He warn't no saint, but at Jedgement
I'd take my chance with Jim
Alongside of some pious gentlemen
Who wouldn't shook hands with him.
He seen his duty, a dead sure thing,
And went for it there and then,
And Christ ain't going to be too hard
On a man that died for men."

18 East Twenty-fourth Street.

## Original Communications.

## A SUCCESSFUL CASE OF SPINAL RESECTION.*

By ROBERT H. M. DAWBARN, M. D.,
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It gives me great pleasure to lay before this section of the Academy to-night, at the request of its chairman, Dr. Gray, the history of so rare and interesting a case as one in which excision of a portion of the spinal column was performed for the relief of paraplegia due to traumatism.

Trephining the spine, or resection by some other means, has been done so seldom that it can hardly be said to have a literature. I refer, of course, to the operations done since the days of antisepsis, since these alone have any statistical value for us. Most of the recorded cases, too, have been for the relief of some condition other than fracture. For example, of Macewen's six cases, reported some months since in the "Lancet," five were for relief of paraplegia due to a tumor, generally areolar in its nature, situated between theca and bone, and apparently starting from Pott's disease as an irritating cause. It is the more necessary, therefore, that this case should be reported somewhat in detail.

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* Read before the Section in Neurology of the New York Academy of Medicine, May 10, 1889.

The history is as follows:

Mr. Harry S., twenty-nine years of age, unmarried; occupation, superintendent at the new aqueduct works; fell from a height of twelve to fifteen feet, on the last day of August, 1888, striking upon his back. He may have struck a wagon-wheel in his descent. He is not sure regarding this. Was unconscious for a time, and on awaking found himself completely without sensation or power of motion in the parts below the ribs. He was delirious for fifteen days thereafter, having considerable fever during this time.

A plaster splint was applied at once by his physician, Dr. C. S. Collins, of Sing Sing, who first molded toward the median line two broken spinous processes which had been deflected toward the left; apparently these were the eleventh and twelfth dorsal. The latter spine, moreover, projected backward about two-thirds of an inch further than its fellows. This cast was left on for seven weeks. Then another was applied, and left on for two weeks. Thereafter the patient, now able to be lifted into a chair without much pain, wore a kind of corset, stiffened somewhat with corset-steels. During most of this period faradaic electricity was used from time to time.

Dr. Collins brought his patient to this city and put him in my hands on December 20th. His condition then was as follows: Complete paraplegia, beginning a few inches below the ribs. Involuntary passage of fæces; retention of urine with overflow. Apparently the lesion had involved the so-called lumbar enlargement. The back showed a kyphotic twelfth dorsal spinous process, as previously mentioned, and that of the eleventh was deflected to the left about one inch and somewhat flattened down. Otherwise the column seemed normal, save for some tenderness on light pressure over the fractured bones. A sacral bed-sore was present, also ammoniacal cystitis. The former was subsequently healed, although with difficulty. The latter yielded quite readily to dilute carbolic- and benzoic-acid irrigations, two or three times daily.

I advised an immediate consultation, and Professor Seguin was called in, January 6th. He thought the spinal bones were very probably pressing on the cord; but, there being no reaction of degeneration, he considered the prognosis moderately good, if no such compression actually existed. Advised galvanism applied daily, also massage and strychnine, and said that if no decided improvement was noted within a period of from six weeks to two months he would certainly advocate cutting down upon the spine to remove a possible compressing force.

The largest-sized chloride-of-silver battery—fifty cells—being insufficient to cause contraction in some regions, notably the muscles at the back of the thigh, I procured another galvanic battery of the same strength, connecting the two. The most obdurate muscles responded to eighty or ninety cells, with the cathode placed upon their nodal points. Reaction to the current was quite prompt when one of sufficient strength was used. The left leg and the right thigh required an especially large number of cells.

For nearly a month there was a steady though slow improvement in the electric response. The muscles felt harder. The patient regained voluntary control of one muscle on each side—the sartorius—but no more. Following this period of improvement was one in which for nearly a month the patient merely marked time, so to speak. In fact, it seemed that the muscles were gradually wasting; and this although the most thorough applications of electricity and massage were daily employed.

It was during this period that Professor Gray was called in consultation. After a most careful and painstaking examination of the case he made a diagnosis which agreed entirely with that previously pronounced by Professor Seguin.

Since the condition at this time was practically identical with that when Dr. Seguin saw the case, I shall refer you for certain details to Dr. Gray's report. He urged immediate interference, believing that the patient's only hope lay in surgical exploration without further delay.

*Examination of Mr. S., made February 8, 1889, by Dr. L. C. Gray.*—"Facial muscles are normal, as are also all the cranial nerves. Optic nerves and the fundi normal. In the upper extremities tact, pain, muscular and temperature sensations were normally appreciated. The grasp of the right hand, tested by the dynamometer, was forty-four kilogrammes, that of the left hand being forty. Upon the cutaneous surface of the trunk no definite area of hyperæsthesia was detected. The tests regarding this point were so contradictory that no value could be attributed to them. The area of anæsthesia upward ceased at a line drawn just above the umbilicus. The deep reflexes were present and active. In the lower extremities the sensations of pain, temperature, and muscular movements were absolutely and entirely abolished. There was, however, a very slight and imperfect appreciation of tact over the toes and the front of the feet. The plantar and knee-jerk reflexes were lost. Cremasteric reflex was present, and especially active on the left side. In the right leg the only muscle that reacted to the strongest faradaic current was the sartorius, and this reaction was fibrillary; in the same muscle no contraction could be obtained by galvanic currents running up to twenty-five and thirty milliampères. There were no polar changes. The anterior tibial and peronei reacted feebly to moderate faradaic and galvanic currents, without polar change. In the left leg the strongest faradaic and galvanic currents failed to produce any reaction in the thigh and buttocks. In the anterior and posterior leg groups there was no faradaic reaction. Thirty milliampères of the galvanic current produced a feeble cathodal closing contraction in the anterior tibial, but only produced a slight flicker in the posterior tibial; even in these there were no polar changes. There was no anodal or cathodal contraction."

During the time subsequent to Dr. Seguin's visit I had, in anticipation of the probable necessity, practiced resection of the spine in my operative-surgery course at the Polyclinic upon six or seven cadavera.

It has happened that all of the few traumatic cases of spinal resection recorded hitherto, or at least those of which I have seen reports, were done at a point higher in the spine than the dorso-lumbar junction. I quickly found that the incision heretofore recommended—a single, vertical, and generally central stroke—while permitting easy separation and retraction of the muscles from the spines and laminæ in the cervical and upper dorsal region, where the muscles are comparatively thin, was not so satisfactory low down. The dorsal spinous processes near the lumbar vertebræ no longer dip sharply downward but project backward;

and the muscle filling the spaces here between these spines and the transverse processes is surprisingly thick to one who has not removed the lower part of the cord at autopsies.

Still, if we are to use the rongeur forceps, as is commonly done, gnawing away *piecemeal* the offending bones, the *central* incision must remain the best. If, however, we wish for any reason to *saw* through the laminæ, removing them *entire* with their spinous processes, then the *lateral* incision, about to be described, is decidedly the preferable one—easier for the surgeon and safer for the patient, because involving less muscular detachment.

In this instance I determined to make an attempt which I believe is new of application to the spinal bones. I refer to reimplanting the detached portions of the column should it be shown at the operation that these are not lying in contact with the cord.

This idea rendered the central incision running down the spines still further objectionable. If the bones were by this usual method entirely bared of muscular attachment at the back, such bones, when cut away, might as a possibility, if kept aseptic and warm, reunite and live when replaced, just as the button removed when trephining the skull will frequently do. But, considering their size, this would be unlikely. And if chipped into small fragments, as advocated by Macewen in skull trephining, the great difficulty of keeping such fragments absolutely quiet, even with the patient in a plaster jacket, will at once appear to every one Upon the skull such absolute immobility can of course easily be secured.

As the best means of attaining my object I determined upon an incision which I will call the "H" incision. This runs like a capital H down the back, with a vertical stroke on either side the spine, and a transverse stroke placed opposite to, above, or below the middle of the vertical, as may seem best. The vertical strokes are directed, as they are deepened, obliquely inward toward the median line of the body and strike the bones about the middle of the laminæ. This obliquity permits sawing the laminæ with Hey's saw with much less retraction of the muscles and consequent laceration than otherwise. The muscles are separated by blunt means a sufficient distance at the bone-level to permit of sawing without laceration. Retractors with an especially deep and flat traction surface are of course indispensable.

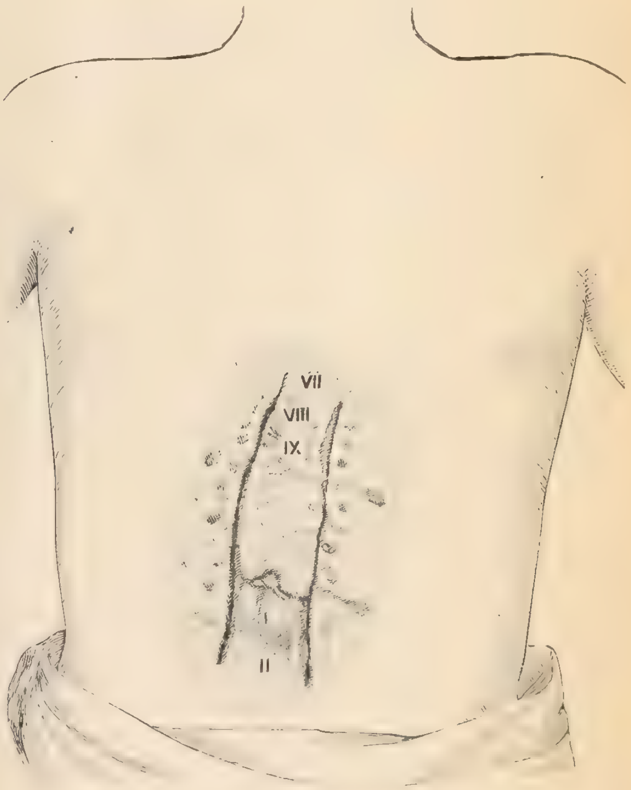
In sawing here one must direct the saw quite sharply inward. If the saw-cut is made at all parallel with the long axis of the spines, the canal will probably not be opened, but the teeth will advance into the body of the bone. This necessary obliquity of the saw-cut, too, prevents the reimplanted bone from sinking too far inward toward the cord, even under pressure. The saw-teeth should cut the narrowest possible groove. The laminæ being severed over a sufficient number of vertebræ, with due care not to wound the theca, the next step is to make the transverse cut of the "H" between two of the spinous processes. This stroke is deepened obliquely upward, and of course cuts the supraspinous and interspinous ligaments.

Assuming that our transverse stroke is made low down in the "H," we now have a long superior flap of spinous processes and their laminæ covered with their undisturbed muscular and cutaneous investments. Their vascular supply being so little interrupted, these bones are almost sure to live. This flap is now reflected, not *directly* upward nor (if the lower flap) *directly* downward—for the spinous processes coming mutually in contact will quickly prevent this—but *obliquely* upward, outward, and backward; or downward, outward, and backward, as the case may be. And in this way a perfectly free view of the theca and canal is easily obtained.

My intention was, in the case of my patient, to replace this bony flap should no part of it be found pressing on the cord, and by silver-wire or silkworm-gut sutures to fasten the laminæ at a few points to their severed bases for additional security against motion in the fragments.

The operation upon Mr. S. was performed on the 27th day of February, 1889. Dr. Gray was present, and the writer was assisted by Dr. F. A. Manning, Dr. H. J. Kelly, Dr. J. H. Brower Browning, and Dr. R. M. Cramer. To the careful attention of these gentlemen during the subsequent difficult and tedious work the ultimate success was largely due. Ether anæsthesia was used. The usual precautions were observed, which I need not detail here, to insure asepticism of the wound.

The patient lying in the left latero-prone position, the "H" incision was made. The vertical arms ran eight inches in length from the seventh dorsal to the second lumbar vertebra, slightly diverging as they descended. The transverse arm ran between the kyphotic spinous process of the twelfth dorsal and the first lumbar spine, which point was about two inches above the lower ends of the first incisions. (The accompanying figure, from a photograph, taken about two months and a half after the operation, will make this clearer, perhaps.) There was very little hæmorrhage. For the smaller vessels I would compress with



sponges in one vertical arm for a time, meanwhile deepening the other; and *vice versa.* The sawing was made difficult because of the wide deviation of the eleventh spine toward the left. Of course I had to go still further to the left to saw its lamina on that side.

Extreme caution was necessary in order to avoid injury to the theca under the right lamina of this same vertebra. This right eleventh lamina was found crushed down much below the level of its fellows. Section of the arches of the eleventh and twelfth being finally completed, the twelfth was easily raised obliquely, together with its superjacent flap. It was now apparent that the depressed eleventh lamina was firmly adherent to the theca, and could not be moved. This fact, and a subsequent discovery as to the cord, compelled me to give up my original plan. In order to remove the depressed bone it became necessary to use the rongeur; and so firm was the thecal adhesion to the bone that, to separate it safely, it became necessary to saw and elevate the posterior arch of the tenth dorsal as well, thus stripping the adherent theca away partly from above and partly from below. The view of the cord now given caused any idea of reposition of the bones to be abandoned. About a finger's length of the cord was in sight. This formed a distinct knuckle, making an angle of perhaps 15°, its apex pointing backward and lying immediately below the depressed arch. Evidently there had been a fracture of the body of at least the twelfth dorsal, which had in part been thrown backward. The laminæ and spine of this, the kyphotic vertebra, remained unbroken. The cord, then, was compressed between two abnormal bony points —one in front, one behind—or at least these points lay firmly in contact with the theca. And opposite the tenth and eleventh spines, while not compressed, it lay so closely in apposition with the arches that I thought it would be unwise to attempt to save these, as the width of the saw-cut would cause them to fall slightly nearer still to the cord.

The posterior arches of the tenth, eleventh, and twelfth were therefore dissected clean away from their muscular investment, with as little laceration of the latter as possible. The first lumbar arch proved normal, and consequently no lower flap in the "H" was made. The theca did not pulsate at all, and seemed adherent to the cord. Just below the eleventh lamina was evidence of an old transverse rupture of this sheath which had reunited, but with slightly overlapping edges. No break in the cord proper could be appreciated by the sight or the finger, and a curved probe passed at intervals gently beneath the theca could not find any bony point on the anterior wall pressing it—save the one named, which was not acute.

The writer would much have liked to open the dura mater and examine the state of the cord by actual sight, and would certainly have done so if the patient's condition had justified a further prolongation of the operation. But the pulse was failing, and, as anæsthesia had lasted more than three hours already, it was considered wisest not to explore further. Accordingly, the wound was closed with sutures of retention and of coaptation—both of catgut—and drained at the middle of the transverse arm of the "H." An ample and smooth iodoform- and bichloride-gauze dressing was applied, then thick layers of cotton wadding about the body, and over all a stout plaster jacket going from the armpits to the trochanters. The patient reacted well. Unfortunately, the temperature of the hot bottles placed about him was not carefully noted, although the attendants were cautioned; and several small sloughs on his thighs and feet resulted. These have since healed, as have two very large ones on his soles caused by heat injudiciously used a few weeks previously.

For some days after the operation he suffered from great pain in the wound, only being able to lie on his face with any comfort at all. Although the temperature did not rise above 100° + at any time, I made a trap-door in the splint the third day, and investigated. The wound was perfectly aseptic and well drained. Removal of the slight pressure upon it gave considerable relief. Briefly, the wound healed by primary union save at the point of drainage, and this closed quickly upon removal of the tube. The pain ceased with the healing of the wound.

It is now ten weeks since the operation, and it will be interesting, perhaps, to give a summary of the changes in the patient's state at the present time. These may be epitomized by saying that he is none the worse in any respect for his operation, but, on the contrary, is in many ways somewhat improved, so that he expresses himself as very glad that it was performed.

The following points may be particularly noted:

Motion remains lost, save that the sartorii are under control and stronger than at any time since the fracture.

Reflexes—testicle, knee, and ankle—absent as before, but pricking the limbs causes free contractions and of other groups in addition to those so irritated.

Muscular sense considerably improved.

Common sensation not much better in limbs. But patient can now feel a catheter the whole length of the urethra, can tell when the bladder is full or even nearly full, and can throw quite a vigorous stream. Before the operation the bladder showed no evidence of muscular power. This improvement has dated only from the past week.

Within three weeks after the operation rectal sensation and motion both became strikingly better. While he still can not retain fæces, unless rather hard, he can now feel intestinal distension, and the finger introduced is grasped. Formerly, the rectum was completely paralyzed regarding both sensation and motion.

The improvement from which he derives the greatest comfort is present ability to move in any direction without pain. Until the operation any free motion of the head caused pain at the seat of fracture, and this region was quite sensitive to pressure. Now tenderness no longer exists here; simply normal sensation.

Before the operation his muscles responded only to strong galvanic currents in the paralyzed area, and very poorly to faradaism. Now his muscles respond to electricity more easily and vigorously than ever before. Perhaps one third fewer galvanic cells are needed now; but where formerly he hardly reacted at all to faradaism, now he does so much more easily, much more vigorously, than to galvanism. This I believe is favorable.

His erections, although the penis has but little sensibility, are more frequent than formerly.

A striking improvement is in the temperature of his legs. They were often bluish, and frequently felt cold, but within a few hours after operation they became warm, and are now almost always so. The toes are no longer in a state of flexion, with the exception of the left great toe, the extensor of which is the only muscle that can not be made to respond to electricity.

From the time of fracture the toe-nails of the left foot ceased to grow, although those of the right foot had to be cut several times between September 1st and the date of the operation. Since the resection the left toe-nails have grown vigorously, having required cutting more than once.

Dating from the injury the left leg ceased to sweat, although the right one did so whenever the patient was in a sufficiently heated atmosphere. Since the operation, however, both lower extremities have perspired freely and frequently—more than would naturally be expected, in fact.

As to the probable final outcome of this most interesting case the gentlemen of this Section will all be able to speak with greater authority than myself, and I shall hope to profit by their expression of opinion.

A few words now upon some general considerations.

There are so few recorded cases in which the operation under discussion has been done for traumatic paraplegia that each case almost stands alone in its own part of the spine, and there is very little with which to compare it, either in technique or result.

It is, of course, absurd to expect a brilliant outcome in these fracture cases—a result which, however, experience has shown to be abundantly possible where tumor is the cause of the paraplegia. In most cases of spinal fracture, with resulting paralysis below, the original injury to the cord has been so severe, the laceration of the cord by the broken bones so great, that even where pressure can be demonstrated and it is removed by surgical means at once, this relief only makes an ultimate recovery possible; it does not at all make it probable.

Still, when it is demonstrated that the cord can safely be exposed, that in a case of traumatic paraplegia the operation for relief of bony pressure becomes by care and asepsis even approximately as safe as one for a traumatic hemiplegia from depressed bone in the skull, then the surgeon will not be considered free from responsibility who withholds his hand.

Each new case, whether successful or otherwise, should be recorded at once, to stand as a guide-post or a warning on our path in these recent domains of surgery.

It seems to the writer that we may now advance the following statement as a rule of practice:

Whenever, following traumatism, even a slight abrupt irregularity of the spinal column is observed to coexist with paraplegia from this level, a cutting operation is indicated to determine whether the paralysis is not, by bony pressure, made incapable of spontaneous relief.

This operation should be deferred no longer than recovery from the original shock of the injury demands. If needed at all, it is needed early; and we make a mistake if, as in my case, we wait until electricity and time have alike proved futile before attempting what I may call exploratory resection. It will be the easier by far to the surgeon at this early stage, and the safer for the patient; at least when the obvious displacement is due to a broken posterior arch, as then comparatively little bony section would be needed, the fragments not having become consolidated by bony union in their false position.

Possibly it might be best to do this, too, even in cases (almost always cervical) in which a simple dislocation is present. Here we have the widest difference of opinion among able men. Most surgeons advocate attempts at reduction by pressure, with or without accompanying extension of the spinal column. Others, who have had one or more patients die suddenly during such manipulations, say "Hands off." May it not be true that in dislocation with paraplegia the removal of one or more arches here would, by relieving the cord, be our safest and therefore wisest expedient? When attempted, the "H" incision would seem best, permitting as it does the several laminæ to re-unite, in those cases where no pressure is discovered.

Nothing is more hopeless in medicine than paraplegia from bony pressure. If this condition were even deemed a strong possibility, operation seems to the writer indicated. This is really in the line of conservatism, since that is wise conservatism which, by whatever means, best conserves or prolongs the patient's life.

If in cases of this kind, although not curing the mangled cord, we shall relieve to a notable extent the patient's sufferings, making his life more endurable and prolonging it, our treatment is more than justified.

## A DANGER TO BE AVOIDED IN THE TREATMENT OF NERVOUS AFFECTIONS BY SUSPENSION.

By WINSLOW W. SKINNER, M. D.

The prophetic warning given by Dr. Hammond in his communication to the Journal of May 11th in regard to the dangers incident to treatment by suspension, and the paragraph relative to a fatal accident with the suspensory apparatus which appeared in the same publication on May 18th, prompt me to signal a new source of danger in the employment of this method which might possibly cause the death of a patient during suspension, even though this were performed under the immediate supervision of a physician. I refer to the presence of catches, knots, or movable handles, which are fastened upon the ropes in some forms of the apparatus, in order to enable the operator to grasp the cord with less difficulty and with greater force when he raises the patient from the floor.

Now, it may happen—it has happened already, and will happen again—that the patient will lose consciousness while being suspended. In such a moment it is imperatively necessary to lower him immediately to the floor, where he may lie flat on his back while the operator applies the proper means to restore consciousness. But these knots or movable handles may and do prevent the cord from passing through the pulleys to a sufficient length to allow the patient to reach the floor with the apparatus still tightly clasping his head, and if the physician is alone in this predicament he will have well-nigh insuperable difficulty in extracting his patient from the straps unless he hastily cuts him down. These dangers and difficulties would be avoided either by the disuse of the handles, knots, and catches mentioned, or by the use of an apparatus similar in design to that of Dr. Hammond, in which the power is applied through a windlass, always provided, however, that there is enough extra length of cord wound around the barrel of the windlass to enable the operator to lower the unconscious patient completely to the floor.

These considerations were suggested by an accident, though not a fatal one, which occurred last month in Dr. M. A. Starr's department of the Vanderbilt Clinic.

An ataxic of about forty years of age, who had already undergone the treatment several times, was being suspended as usual, and while hanging in the air said, in answer to questions, that he was quite comfortable, when suddenly, without any warning whatever, he became pale and entirely motionless and unconscious. The physician in charge, who was watching him constantly, at once endeavored to let him down to the floor, but a movable handle had been attached to the cord and was arrested at the pulley, so that the cord could not be dealt out sufficiently to allow the patient's weight to rest on the floor. Fortunately, aid was near and the patient was lifted a little, while the straps were unbuckled from his head and shoulders, and he was placed in a proper position, and consciousness soon returned. No permanent untoward effects of the suspension were observed, and the patient has since been treated in the same manner without accident. Three other patients at the clinic have complained of vertigo, but none to such an extent as this.

While this comparatively new method of treatment by suspension is being judged by the profession—while it is still on probation, as it were—every phase of its working should be examined, and all its dangers as well as its virtues should be made known if possible before a final decision on its value is reached.

170 West Sixty-fourth Street.

## Correspondence.

### LETTER FROM VIENNA.

*A Complicated Case of Cerebral Disease.—Laparotomy for Extra-uterine Gestation.—The Transplantation of Bone.—Professor Billroth's Sixtieth Birthday.*

Vienna, *May 22, 1889.*

At a recent meeting of the Imperial Royal Society of Physicians, of Vienna, Professor Nothnagel brought forward a case of cerebral disease which was very remarkable from a diagnostic point of view. The case was as follows: The patient, a turner, aged twenty-nine, had been taken ill, a year before, with nephritis, from which he recovered after a short time. In August of last year he began to suffer from cough, anorexia, and weakness, for which he was admitted into the hospital. During his sojourn in the hospital a disturbance of vision came on; everything appeared to him as if seen through a fog. Diplopia also was stated to have been present at the beginning, but to have disappeared subsequently. A painful sensation of burning came on in the right half of the face, the tongue could be moved only with difficulty, and the speech was impaired. On walking, he suffered from giddiness, but he never complained of headache. There was tinnitus in the right ear. When the patient was shown he had a number of symptoms referable to the most various cerebral nerves. The olfactory nerve was not affected. Vision was impaired, and there was bilateral chorioiditis; both pupils were contracted and sluggish; the mobility of the eyeball was much impaired in all directions; the levator palpebræ acted slowly.

The fifth nerve presented special disturbances. When the patient pressed the maxillæ together the right masseter muscle became very solid—a condition which did not exist on the left side. Hence the lesser division of the fifth nerve was inactive, and there was, perhaps, also a slight muscular atrophy. The greater portion of the fifth nerve was affected, though, strange to say, the affection was situated on the right side, but not on the left. The left facial nerve was partially paralyzed; the auditory nerve was uninjured. The patient's hearing was normal, though he was affected with bilateral suppurative otitis media and perforation of the membrana tympani.

As to the glossopharyngeus nerve, the patient had, indeed, no difficulty in swallowing, but he ate with extreme caution, since, if he did not do so, the food and fluids passed through the mouth and nose when he swallowed. Disturbance of this function was therefore present, though the paralysis of the muscles of the palate was incomplete. As to the vagus nerve, in the apyretic condition there was a permanent increase in the frequency of the cardiac pulsations, which varied from 100 to 120. The laryngoscopical examination revealed nothing; there was no paresis of the vocal cords. The hypoglossal nerve was sound. The patient spoke through the nose, probably owing to the paresis of the velum palati; he could, however, pronounce all the letters and the most difficult words distinctly. He could walk well, but he lifted his right leg with more difficulty than the left. The right hand was stronger than the left. The patellar-tendon reflex was distinctly increased in both knees. His gait became uncertain when he closed his eyes; it then closely resembled that of a tabetic patient. Examination with the galvanic current of the territory supplied by the facial nerve revealed, on the left side, the beginning of the so-called reaction of degeneration. There was a slight degree of hyperæsthesia on the right side. There was, then, an extraordinary complexity of symptoms, the explanation of which presented the greatest difficulties. Taking into account all these appearances, Professor Nothnagel pointed out that there was external ophthalmoplegia produced by nuclear lesion, but that the spinal symptoms also pointed to a lesion of the funiculi pyramidales. He had arrived at the probable diagnosis of a diffuse disease in the brain, and perhaps also in the spinal cord, in which the nuclei of the eye muscles, the nuclei in the medulla oblongata and the pons Varolii, and the fibers of the funiculi pyramidales were affected. On a subsequent occasion, Professor Nothnagel reported on the further course of the disease. The complex of symptoms had much changed; the mobility of the eyeball upward and downward had improved, and there was only paralysis of the recti interni and externi on both sides. Furthermore, there was a paralysis of the masseter muscles on the left side with complete left-sided paralysis of the facial nerve in all its branches. There were also distinct bulbar symptoms which had been overlooked at the time the patient was shown. The patient spoke with difficulty, and his food invariably took a wrong direction. The pulse was frequent. The hyperæsthesia of the right side of the face and of the right upper and lower extremities still persisted. There was, moreover, a distinct paresis of the right extremities, also an alternate paralysis, in which the facial nerve and the lesser division of the fifth nerve on the left side took part, as well as the extremities and the sensory portion of the fifth nerve on the right side. Such alternate paralyses, if an affection at the base of the brain and a double seat of the disease were excluded, pointed with certainty to an affection of the pons Varolii—namely, in the lower part of the pons, behind the decussation of the facial nerve, and in front of the decussation of the nerves for the extremities. An analogous case had been published by Wernicke. As the cause of the disease, Professor Nothnagel suggested tuberculosis, since the patient had already suffered from tuberculosis at the apex of the lungs. The supposition of tubercles seated over the dorsal surface of the pons Varolii (over the back of it), on the left side, would explain all the symptoms, since the nerves for the extremities had been affected much later than the facial nerve, the lesser division of the fifth nerve, and the common nucleus for the motor-oculi nerve and the abducens nerve. It was, moreover, suggested that the tumor, on its further growth, had enlarged downward and thus produced bulbar symptoms on the part of the organs and the glossopharyngeal nerve.

Death occurred a short time after the second communication on the case, and the post-mortem examination confirmed the exact location and cause diagnosticated, namely, tubercle with its seat over the dorsal part of the pons Varolii toward the left side.

Professor Carl Braun von Fernwald recently showed a peculiar case to the Obstetrico-gynæcological Society of Vienna. The patient had already been confined twice. In May, 1888, she had the last menstruation. In September she began to complain of constant pains in the abdomen. On the 10th of February, 1889, she was admitted into Professor von Braun's clinic, where Dr. Braun's son made the diagnosis of extra-uterine pregnancy, with free effusion of liquid into the abdominal cavity. Laparotomy was performed on the following day. At the examination which had previously been made, the uterus had been found to be of the size of the head of a fœtus. It was lowered and removed toward the left side. The various parts of the fœtus could be felt through the flaccid abdominal walls, and a collection of free liquid in the abdominal cavity could be proved to be present. On opening the abdominal layers in the linea alba, and after the peritonæum had been divided, there escaped a large quantity of serous fluid in which flakes of fibrin were suspended.

The fœtus was removed, and the umbilical cord was ligated. The child, a girl, weighing 3,100 grammes, and being 51 centimetres in length, was imbedded in a mass of fibrinous clots, and was easily aroused from a slight asphyxia. She, nevertheless, succumbed after twelve hours, and the post-mortem revealed the presence of capillary bronchitis and bilateral lobular pneumonia, owing to the inspiration of amniotic fluid and fibrinous flakes. Nothing could be proved as to the presence of an amniotic sac, only in Douglas's pouch the peritonæum was covered by a thin membrane, which might be looked upon as a membrana ovi, and which stood in connection with the placenta, which covered the posterior surface of the uterus and that of both the broad ligaments. On the left side the placenta very closely adhered to the mesentery of the sigmoid flexure by means of very strong blood-vessels. After these had been ligated the adhesion was destroyed, and the placenta gradually removed. As, however, the hæmorrhage over the back of the uterus could with difficulty be stopped, the uterus was seized at the neck by means of an elastic ligature and sutured outside the peritonæum in such a way that, after the "toilette" had been made, the peritonæum was sutured to the upper part of the wound and to the rest of the amniotic sac. Owing to these manipulations, a large cavity resulted, in the middle of which lay the stump of the uterus, after the body of the same had been removed. This cavity was filled up with iodoform gauze, the stump was fixed in the usual way, and the abdominal layers were sutured. Recovery supervened slowly, and quite without fever.

Professor A. Adamkiewicz, of Cracow, recently made a communication to the Vienna Imperial Royal Academy of Sciences on experiments which he had carried out on the transplantation of bone. The author's well-known experiments on compression of the brain had led him to perform numerous trephinings on the animals on which the experiments had been made. For certain reasons, after having trephined, he replaced the round pieces of bone which had been removed, and sutured over them the periosteum and the skin. After the first experiments, he had perceived that the pieces of bone which had been introduced had healed into the skull. He had since paid great attention to this fact, and, as the result of a vast number of experiments, had arrived at the following conclusions, which, in the first place, had been deduced from experiments on the rabbit:

1. Round plates of bone of a diameter of from 0·6 to 0·9 centimetres, which had been removed from the skull of the rabbit and inserted again into the opening, united perfectly with the surrounding bone, if the usual precautionary antiseptic measures were taken at the operation.

2. The length of time which was necessary for this process to take place was between four and six weeks. At least, the author had observed, after from four to six weeks, a perfect synostosis between the implanted piece of bone and the other bones.

3. The piece of bone to be transplanted could be exposed to the air for a certain time (from five to ten minutes) or could lie in a solution of carbolic acid (two to three per cent.) without preventing the success of the experiment.

4. Still larger pieces of bone, more than a centimetre long, and correspondingly broad, whose edges were not even smooth, also united with the skull, when implanted with the same precautions.

5. In the same way pieces of bone could be transplanted from one animal to another with equal success.

6. The osseous intergrowth occurred on the borders of the bones which touched each other, for these ossified and became more and more indistinct, whereas the free surfaces of the bones preserved their usual form and smoothness. In cases in which the implanted piece of bone did not touch the border of the surrounding bone, the union took place by the formation of connective tissue, and not by ossification, so that it might therefore be concluded that for an osseous union to occur the direct contact of the bones was of great importance.

On the 26th of April, Professor Theodor Billroth completed his sixtieth year, but he was absent from Vienna at that time. The Vienna students, together with his known "disciples" and friends, prepared a splendid ovation for him on the 6th of May, when the distinguished master commenced his lectures for the summer semester. At half-past nine A. M., Professor Billroth, accompanied by his two assistants, appeared in his lecture-room, which was splendidly decorated with flowers. The students and numerous physicians present, who completely filled the auditorium, received him with repeated and enthusiastic exclamations of "*Hoch*" and "*Prosit.*" One of the students then addressed the distinguished surgeon in the name of the Vienna students, and he responded in a long and eloquent speech. Among other things, he referred to the imperfection of the healing art with respect to tuberculosis and the malignant neoplasms. Mechanics ("technics") could hardly help us any more; it was chemistry which had to invent new remedies able to kill the tubercle bacilli which had penetrated into the organism, and others which could check the further development of the neoplasms without damaging the whole organism. These were, according to the speaker, the most important tasks of the future.

Dr. Sjsrgerwitch, Minister of Public Instruction of Servia, presented Professor Billroth with the Grand Cross of the St. Sava Order, and the Vienna students presented him with a medal which bore on one side his portrait, with these words: *Theodorus Billroth, ætatis suæ lx;* on the other, *Medico artifici, viro optimo pietate conjuncti discipuli et sodales.* Professor Billroth was also the recipient of several other distinctions on this occasion.

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**The American Medical Association.**—The meeting in progress at Newport as we go to press is largely attended, and the attendance seems to be fairly representative of the various parts of the country. The programme was an unusually long one, even for this association, and of satisfactory diversity. We shall publish an account of the general meeting in our next issue, being obliged to omit it this week on account of the pressure of other matter which necessarily calls for insertion in the closing number of the volume.

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## THE SANITATION OF JOHNSTOWN.

The sanitary situation at Johnstown is not so simple as at first appears. It is true now, as reported by the Surgeon-General to the President two weeks since, that the source of danger from a sanitary standpoint was the drift at the bridge. That drift proved a veritable *pons asinorum*, for the desultory efforts made at first only served to discourage the hope of ultimate success.

The State Board of Health of Pennsylvania, represented by Dr. Lee, Dr. Sibbett, and Dr. Groff, was early on the ground, but the most it could do was to reassure the people, and pay attention to such points as needed immediate action. The hospitals and the mortuaries required its constant surveillance, and its repeated denials of the probabilities of an epidemic were made necessary by sensational correspondence. The unfounded rumors of an impending epidemic had the effect of frightening the workmen from work in many instances, and deterring many laborers from going to Johnstown at a time when their labor was urgently needed. The presence of a working majority of the State Board of Health materially assisted in quieting excitement, and their cool, calm demeanor in the trying times of the first week was in strong contrast with that of the self-constituted dictator and his satellites.

But military system has at last brought order, the work of rebuilding Johnstown has begun, and the services of the State Board are again essentially necessary. The problem is a somewhat interesting one. Although the sanitary dangers are not from any specific germs, there is danger to the public health in the newly excavated cellars and basements, unless they are well managed, and it is precisely in such situations as this that the wisdom and prudence of the board of health have opportunity to show their best fruits.

While the work of clearing out the drift at the bridge has been properly left to the engineers, the board will do well to insist that Johnstown should now try to make itself entirely healthy for the future. The town is subject to overflow every year; why not now make use of the opportunity to raise the grade of its streets, put in a modern sewerage system, and thus place Johnstown in the list of cities absolutely healthy? Its mountain air and its pure water have given it great natural advantages, and the way is now clear to profit by this great calamity to make Johnstown a true city of Hygeia; thus from its now unsightly and melancholy wastes may arise a sanitary Mecca.

## MINOR PARAGRAPHS.

### FATHER DAMIEN.

The Prince of Wales has done an unexpectedly popular thing in taking the leadership of a movement which has for its end the honoring of the memory of the hero-priest of Molokai, the project including a memorial on the lazar-island which was the scene of Father Damien's consecrated life, sufferings, and death, and also a ward to be maintained at one of the London hospitals, to encourage the thorough study of leprosy. The "Lancet," expressing its feeling in regard to "the moral beauty of self-sacrifice" in men like Dr. Livingstone and Father Damien, "which shines with signal brilliancy by contrast with the material altar upon which it is laid," says: "To Father Damien belongs the honor of having given us the most striking and perhaps the most noble of the many new incarnations of self-sacrifice."

The magnitude of the changes wrought by his sixteen years of devotion adds to our satisfaction, for we are accustomed to see so much abnegation that goes for naught that the successes of the father of the lepers makes a doubly deep impression upon us. Under Damien's energy the island of degradation and misery which he found on his arrival has been transformed into a law-abiding and almost attractive community of over a thousand invalids; they are cleanly, cheerful, and measurably self supporting. Since the death of Father Damien in April last another Belgian priest, Father Wendolen, has been placed in charge of Molokai. But, meanwhile, a young priest, Father Conradi, also a Belgian, who had been an assistant of Father Damien's for a few years, has been taken sick, it is believed, with leprosy; he is only thirty-five years of age. Another European, an Irishman, who had been a soldier and afterward had assisted in the instruction of the lepers, is now himself a leper and his days of helpfulness are over. These are all heroic men who command our respect, but it is to Father Damien that the memorials are due, since it was he who marked the road—"he blazed the trail"—to a grand and fruitful self-consecration; for a time at least he trod the thorny path alone, while the later comers had the company of a hero from the first. The full name of the hero-priest is Joseph Damien de Veuster; this we learn from the "Illustrated London News," which journal contains a woodcut of large size representing the lamented priest in his canonicals. The face, as therein depicted, is indicative of intelligence, energy, and beneficence.

### THE NEW YORK TENEMENT-HOUSE DEATH-RATE.

The recent statistics of Dr. Roger S. Tracy, as given in the newspapers, seem to be open to criticism. We refer to the low tenement-house death-rate, placed at 22·71 per mille. It is low because of the inordinately high estimated tenement population, perhaps; of course, the higher the error in an estimated population, the lower must the rate of mortality fall. Change the arrangement of the tables, and we have:

| | Grand total population. | Tenement population. |
|---|---|---|
| 1888 | 1,526,081 | 1,093,701 |
| 1869 | 894,419 | 468,493 |
| Increase in twenty years | 631,662 | 625,209 |

In other words, if Dr. Tracy's figures are correct, the increase has been almost wholly in the tenements; the private-house classes have grown only 6,453 in twenty years, or only 323 per annum. This is incredible; there have been thousands of houses put up in that time, to say nothing of the great number of beings that fill them. The better, or well-to-do class, has not been stationary. Stated proportionally, according to Dr. Tracy's data, the rate of increase has been over 133 per cent. in the one class and less than 1·5 per cent. in the other. If our point is well taken, it must be seen that a good deal of what Dr. Tracy says goes for nothing.

### A BOARD OF HEALTH WANTED.

Diphtheria has prevailed at Steinway village and Astoria, both places within the jurisdiction of Long Island City. That city is in an unfortunate sanitary condition by reason of a deadlock among its officials, which has prevented the organization of a board of health. While the politicians have been quarreling, epidemic disease has intrenched itself, and many valuable lives have been put in jeopardy.

### OUTINGS FOR SICK CHILDREN.

The number of sea-side and inland retreats to which sick children can be taken from the city increases every year. Beginning with the Bartholdi Crèche, in the Harbor, and extending out along either shore of Long Island and around on the Jersey coast, there are not fewer than fourteen country refuges for those smitten by the summer's heat. They are, without exception, sustained by the contributions of private individuals, and must require not less than $12,000 annually. The great heart of charity is never still, but it is most easily moved in behalf of the very young who suffer. The circular of one of the sea-side homes, recently received, gives a timely caution in regard to sending out of the city children who have bronchial or pulmonary troubles, the experience at that resort being that such patients are injured rather than benefited.

### THE UTILIZATION OF GARBAGE.

According to the "Bulletin of the Rhode Island State Board of Health" for May, the city of Milwaukee will soon abandon the cremation of garbage, which it was among the first of the Western cities to adopt and advocate. It is proposed to substitute a drying process in the place of combustion. A company is at work with a new method, which converts cities' refuse into articles more or less salable. The garbage is made to pass through a series of mechanical driers, and in the course of ten hours becomes a brown powder. The oil is pressed out or drawn off, and the residue can be sold as a fertilizer.

### THE BROOKLYN THROAT HOSPITAL.

A new hospital for diseases of the throat, nose, and ear has been inaugurated on Bedford Avenue, Brooklyn, a public reception having been given on the evening of June 19th. The hospital has temporary quarters in the upper part of the building which contains the Eastern District post-office. It has ten rooms only at the present time, but all its appliances are of a modern and approved description. Dr. Reuben Jeffery is the chief of staff. Dr. W. A. Dayton, of New York, will be the aural surgeon, and Dr. W. O. Moore, of New York, the ophthalmic surgeon. Dr. F. E. West will have the pulmonary room, together with Dr. W. L. Cary. The New York Post-graduate Medical School will assist in the development of the clinical opportunities in this large new field.

### THE NEW ORLEANS MEDICAL COLLEGE.

The "Medical News" announces the withdrawal of Professor T. G. Richardson from the faculty of the medical department of Tulane University, New Orleans, on account of ill health. He has had an exceptionally long term of service—thirty-one years—fourteen years in the chair of anatomy and seventeen in that of surgery. For twenty years he has been dean of the faculty. He has been made the emeritus professor of surgery and presented with a series of resolutions, by his former colleagues, expressing their estimation of his worth and their deep regret that they must part company with him. In that long period he had given instruction to nearly 6,000 students and had seen over 1,500 of them receive their medical degree.

### ITEMS, ETC.

**Infectious Diseases in New York.**—We are indebted to the Sanitary Bureau of the Health Department for the following statement of cases and deaths reported during the two weeks ending June 25, 1889:

| DISEASES. | Week ending June 18. | | Week ending June 25 | |
|---|---|---|---|---|
| | Cases. | Deaths. | Cases. | Deaths. |
| Typhoid fever | 19 | 6 | 7 | 0 |
| Scarlet fever | 109 | 10 | 81 | 8 |
| Cerebro-spinal meningitis | 4 | 3 | 1 | 0 |
| Measles | 109 | 6 | 89 | 7 |
| Diphtheria | 125 | 44 | 115 | 35 |
| Small-pox | 1 | 0 | 0 | 0 |

**Recent Deaths.**—Dr. Harrison Teller died at Mt. Kisco, N. Y., on the 17th inst., aged seventy-five years. He was a licentiate of the Westchester County medical society in 1838 and received an honorary degree in medicine from the State medical society in 1860. He spent the greater part of his professional life in Brooklyn, but about twenty years ago moved to the town above named, in the pursuit of a retired and country home-life. He was a man of high moral feeling and had the name of being very kind to the poor.

The Rev. William Arms, M. D., died at Duquoin, Illinois, on June 21st, in his eighty-eighth year. He was a native of Wilmington, Vermont; fitted for college at Fairfield Academy, New York; graduated in arts at Amherst in 1830, in theology at Andover in 1833; and went as a missionary, for a period of five years, to Patagonia, Batavia, and Singapore. Returning to this country, broken in health, he studied medicine at Dartmouth, taking his degree in 1839. He practiced medicine in Vermont, in Wisconsin, and at Vandalia, Illinois. He retired from practice about twenty years ago.

Dr. David Boyes Smith, late professor of military medicine at Netley, England, died recently. He was a graduate in medicine of the University of Edinburgh, and had been surgeon-major in the Bengal Army. He succeeded Professor Maclean at the Army Medical School three years ago. His death was caused by a tumor of the brain.

Dr. James F. Foulkes died at Oakland, Cal., on May 22d, of diabetes. He was a native of North Carolina, a graduate in arts from Princeton College in 1849 and in medicine from Jefferson College in 1852. He was a permanent member of the California Medical Society.

**Change of Address.**—Dr. George De Forest Smith, to No. 20 East Twenty-ninth Street.

**The New Jersey Medical Society.**—At the recent annual meeting, officers for the ensuing year were elected as follows: President, Dr. B. A. Watson, of Jersey City; vice-presidents, Dr. J. S. Green, of Elizabeth, Dr. E. J. Marsh, of Paterson, and Dr. G. T. Welch, of Keyport; corresponding secretary, Dr. William Elmer, Jr., of Trenton; recording secretary, Dr. William Pierson, of Orange; treasurer, Dr. W. W. L. Phillips, of Trenton.

**The late Dr. Moses Gunn.**—The faculty and alumni of Rush Medical College, Chicago, have taken steps toward the erection, at the college, of a memorial bronze in memory of their lamented professor of surgery, the late Dr. Moses Gunn. The subscription list will be closed this month, and an order for the entablature will be given out commensurate with the funds in hand and subscribed.

**The Medical Department of Syracuse University.**—At the commencement of this college, held June 13th, a class of four was graduated, the smallest in the last ten years. The alumni met, had a banquet, and elected Dr. B. L. Hovey, of Rochester, president.

**The Leper-house at Jerusalem** has been seventeen years in operation under the care of the Moravians. Their new asylum, built at a cost of $21,000, has 19 inmates, 13 males and 6 females, including 11 Moslems and 8 Christians. There were three deaths last year. The expenses for the year 1888 were $2,200, about $100 annually for each inmate.

**The Medical Society of the County of Westchester** held its ninety-first annual meeting at White Plains on June 18th. Dr. Samuel Swift, of Yonkers, was elected president; Dr. Charles Mason, vice-president; and W. F. Greene, of Mount Vernon, secretary.

**The Presbyterian Hospital of Philadelphia.**—Lady Mary Kortright, widow of Captain C. H. Kortright, C. M. G., formerly British consul at Philadelphia, has generously offered to build a convalescents' retreat for the Presbyterian Hospital of that city, and endow it to the extent of $100,000. She was a Miss Richardson, daughter of a banker of Philadelphia. Her home is in England, but her gifts have been frequent to the hospital above named and to other charities near her old home.

**The International Medical Congress of 1890.**—A "Lancet" Berlin letter states that Professor Virchow, Professor von Bergmann, and Professor Waldeyer, with some others who have had experience in such matters, held a committee meeting on May 27th for the arrangement of the preliminaries of the Berlin congress of 1890. They intend to continue their preparatory work in good earnest from this time out.

**An Army Surgeon's Heroism.**—The British forces have been conquering more territory in northern Burmah, and last January they met with hot opposition on the part of the hostile Karens. The gallantry of Surgeon J. Crimmin, of the Bombay medical service, is referred to in general orders, not only for his great coolness under heavy fire but for his soldierly aggressiveness. While caring for one of the wounded men he was cut off and surrounded by the enemy, whereupon he seized his arms and defended himself and his patient until relief came, killing some of the Karens.

**The Long Island College Hospital Training School for Nurses.**—A class of ten trained nurses was graduated at this school on June 20th, after a full course of two years. The address was given by Dr. J. A. McCorkle, who, in the name of the regents, presented a medal to each member of present and former classes.

**The Asylum Superintendents' Association.**—The forty-third annual meeting of the Association of Medical Superintendents of the Insane was held at Newport, R. I., beginning on June 18th.

**A Medico-military Society.**—Fifty members of the New Jersey State Medical Society, who hold commissions in the medical corps of the New Jersey National Guard, have organized a medico-military society, with Surgeon-General John Dale McGill, of Jersey City, as president, and Surgeon E. L. B. Godfrey, of Camden, as secretary. The name of the society will be the New Jersey Medico-military Society. The society will hold a meeting in July at the annual State encampment at Seagirt.

**The Stormont Library.**—Mrs. Jane Stormont, widow of the late Dr. D. W. Stormont, of Topeka, Kansas, has presented $10,000 to the medical society of that State, to found a library for medical men. She designs in this manner to perpetuate her husband's memory.

**Society Meetings for the Coming Week:**

TUESDAY, *July 2d:* Medical Society of the County of Broome (quarterly), N. Y.; Union, N. J., County Medical Society (quarterly); Chittenden, Vt., County Medical Society.

THURSDAY, *July 4th:* Washington, Vt., County Medical Society.

## Proceedings of Societies.

### NEW YORK ACADEMY OF MEDICINE.

SECTION IN NEUROLOGY.

*Meeting of April 12, 1889.*

Dr. LANDON CARTER GRAY in the Chair.

**Nervous Symptoms arising from Ovarian Disease, and their Treatment.**—Dr. C. L. DANA read a paper, opening a discussion on this subject, from the standpoint of the neurologist. The symptoms properly falling within this description embraced those which were produced at points remote from the ovaries by reflex influence, and not in the ovary. The term "irritating ovary" expressed to him this relation. The physiological basis of such a condition in the ovary might be purely nervous, that is, without anatomical change, and the general neuroses might be produced by such a condition. But most commonly chronic hyperæmia or oophoritis was present. The parenchymatous and cystic degenerations, or ovarian tumors, did not cause these symptoms, and so might be excluded. The mechanism by which reflex effects were obtained might be of two sorts—trophic and vascular. An irritation traveling through the vaso-motor nerves caused congestion of the pelvic organs which might become chronic; but if the trophic connections felt the irritation, various remote symptoms might be produced, and of these a large number were on record. Among those recorded were vaso-motor disturbances, cardiac irritability, hysteria, mania, melancholia, neuralgias in the hands or feet, spinal irritation, sciatica, migraine, dyspepsia, insomnia, and vesical and rectal pains. He questioned how large a part of these were direct effects of and really due to conditions in the ovary, and especially as the removal of the ovaries did not, to any great extent, relieve the severer constitutional nervous diseases, such as chorea; and, on the other hand, melancholia, epilepsy, bad neuralgias, etc., often occurred in persons having perfectly healthy ovaries, and severely diseased ovaries often were unaccompanied by any such disorders. Ovarian epilepsy was not mentioned by Gowers, and, although Battey had recorded ten cases, eight of which he had cured, one of these patients had had hysteria and catalepsy, another had afterward died of a brain disorder and another in convulsions, and a fourth had probably had convulsive hysteria rather than epilepsy. We knew that patients having the hysterical affections simulating epilepsy were often cured by small things which made an impression on the mind, such as one dose of a nauseous drug, or the snipping of the conjunctiva. As for ovarian mania or insanity and amenorrhœal insanity, similar observations could usually be made as to the real nature of the malady present in the recorded cases sufficient to show that it lay outside the ovary to a very large extent. In women the thoughts tended to dwell on the organs of the pelvis, and it might easily happen that if the ovaries of a hysterical patient were removed she might fancy herself cured. He believed, then, that the ovarian function occupied a subordinate place among the things which determined the chronic neuroses. Sickness could be produced by ovarian irritation doubtless, but not in the specific ways which had been supposed by some to be usual, leading directly to epilepsy, chorea, insanity, etc. The brain, the stomach, and the pelvic organs constituted in all organisms what might be called the tripod of life; but as in man the brain tended to predominate over the two others in comparative development, so the functions of the stomach and pelvic organs tended to become automatic and of subordinate influence on the whole organism.

Dr. W. G. Wylie thought the influence of the ovary in producing nervous symptoms had been overrated; much depended really on the inherited nervous organization. Thus, a delicately organized woman might be made an invalid by the existence of ovarian hyperæmia or disease which in a strong and robust woman would have no secondary effects discoverable. The sexually undeveloped women from whom so large a proportion of gynæcological practice was derived were very apt to have also poorly developed nervous systems, at the same time that they were more likely to have ovarian disease. He would remark at this point that the rectum and colon had an intimate connection with the nervous system. Anal fissures, ulcerative patches in the lower bowel, collections of scybala, etc., were frequently the cause of nervous symptoms, for the relief of which the generative organs had been needlessly operated on. A common condition present, where he had found nervous disturbances really resulting from ovarian disorder, was the thickening and hardening of the ovarian tissue by increased fibroid elements. This caused intense pain locally, and general excitability and irritability before menstruation.

Before he considered doing oophorectomy he made it a rule to get the opinion of an alienist, and also to keep the patient for weeks under his own observation; to examine under ether and see if the ovary was enlarged or confined by adhesions, to try treatment locally and attention to the general health, and to determine that the patient's subjective symptoms were such as to warrant the operation. No well-established ovarian disease could be cured during menstrual life; attempts at ovulation must go on, and this of itself would interfere with any attempted reparative process. From this point of view the necessity of ovariotomy in certain cases was evident; but he believed that, if imperfect sexual development had been more generally recognized as a very common thing and more conscientious attempts made to improve the circulation, digestion, and muscular systems of these patients, better results would have been obtained than had followed castration in hundreds of instances. He had found also that the uterus had much to do with the reflex disturbances under consideration as well as the ovaries, although he had, after years of menstrual hysteria that had resisted all uterine and other treatment, cured it by removing the ovaries.

In brain diseases he had not seen good results from oophorectomy. He had done the operation five times for epilepsy. In three of these patients it had returned, and in the case of the two who had been cured he had not been convinced that epilepsy had been present at all.

Dr. B. Sachs instanced two cases in which epilepsy had returned after oophorectomy, and believed that, where cures were effected by it, hystero-epilepsy had been present and not epilepsy. The question then arose as to what effect the removal of the ovaries might be expected to have on hysteria of a bad sort, its progress, and its continuance. If in hysteria the ovary was found to be much enlarged or inflamed, its removal was justified, but in the majority of cases it was healthy, and the removal of such an ovary was to be decided on as of value or not. The speaker believed that a hyperæsthetic ovary represented only a portion of a general hyperæsthetic organization, and that we had no better reason for removing such an ovary than for excising an oversensitive stomach. The varieties in neuralgic disturbances were not easily numbered. If we removed a painful ovary, we might only be excising one of several foci and compelling the disorder to crop out in other directions. We needed statistics in regard to hysteria being cured in this way. He had seen instances where much amelioration of symptoms was obtained, but in time these symptoms had always returned, sometimes in six months or after a year.

Dr. Mary Putnam Jacobi agreed that larger statistics, based on more precise diagnosis, both of the neural and of the pelvic disorder, were needed before we could judge of the actual influence of oophorectomy over hysteria. In every case it was necessary to distinguish between pain really seated in the ovary and an hallucination of pain generated in an hysteric brain by the same mechanism as other sensory hallucinations were generated in insane brains.

In reading the voluminous report by Richet of Charcot's clinic, containing over a hundred cases of ovarian hysteria, she had not gathered the impression that Charcot attributed the hystero-epilepsy to disease of the ovary, either organic or functional, but that he regarded the sensitiveness of the ovarian region as one of the essential elements of the general symptom-complex. He indeed called "ovarian paræsthesia" one of the hysterical stigmata, and thus classed it with hysterical amblyopia or other symptoms. The influence over the paroxysms exercised by compression of the ovarian (or "hysterogenic") zone was comparable with the influence of the epileptogenic zone discovered in the neck of rabbits by Brown-Séquard. In the cases detailed by Richet no attempt had been made to ascertain the condition of the pelvic organs. The histories given included so many records of abortions and confinements (largely illegitimate or associated with desertion by the father), which had been the starting-point of the illness, that the probabilities were greatly in favor of there having been utero-ovarian disease, as well as moral suffering, in the causation of the hysteria. But the fact had not been made out, and therefore these cases, so valuable symptomatically, could not be of use in deciding the question at issue.

The speaker further remarked that the grave forms of constitutional hysteria were quite noticeably free from utero-ovarian disease. She had had occasion to observe several such cases (not indeed of hysterical mania, but of serious psychic deterioration) where the symptoms had developed spontaneously early in life, and where, in spite of the asseverations of the patient, there had been no objective sign of pelvic disease in either uterus, ovaries, or rectum.

The negation of any *necessary* connection between hysteria and uterine disease had, in fact, been the chief aim of the classical treatise of Briquet. His conclusions might now require to be modified to accord with our greater precision in pelvic diagnosis, but many of them must remain good. Undoubtedly constitutional hysteria was a disease of the brain, and when oophorectomy affected such cases it did so by the medium of the impression made on the brain. But these cases were to be distinguished from those where hysteroid symptoms coincided with the appearance of the symptoms and objective signs of utero-ovarian disease.

It was noticeable that hysteroid disturbances were predominantly vaso-motor in character, being best explained by assuming the existence of a vaso-motor disorder in the nerve centers, or an analogous disorder of unstriped muscular fiber elsewhere. Correlated with this clinical fact was the anatomical one that all the nerve filaments of the ovary so far discovered had been found to terminate in blood-vessels. It was probable, therefore, *a priori*, that, when ovarian hyperæmia or oophoritis existed, its distant effects should be produced in the sphere of the vaso-motor system, and so only indirectly in the cerebro-spinal nerve centers.

The identity was almost complete between the nervous symptoms of oophoritis and those of fundal endometritis, as the common distribution of the utero-ovarian nerve to both ovary and fundus would lead us to anticipate.

The speaker thought an exact analysis of clinical histories would show that oophoritis was always preceded by a fundal endometritis, which also often continued on with it. Primary oophoritis was not observed any more than primary adenitis. Permanent nausea and also tympanites were characteristic symptoms of a lesion of the utero-ovarian nerve.

The interesting researches of Anjel (published in the "Archiv für Psychiatrie") seemed to imply that a prolonged vaso-motor cramp of cerebral blood-vessels was habitually associated with neurasthenia. His experiments had been made with the plethysmograph applied to the arm. The afflux of blood from the arm to the brain during mental activity which this instrument registered in the case of healthy persons failed to occur in neurasthenics. Such a vaso-motor cramp might easily be initiated by the vaso-motor irritations of a diseased ovary. It might imitate and abnormally prolong the high vascular tension properly peculiar to the premenstrual period. English writers had emphasized the occurrence of a special form of dyspepsia in ovarian disease which they called "ovarian dyspepsia." This might very possibly be due to vaso-motor spasm of blood-vessels in the gastric mucosa, resulting in impaired secretion of gastric juice. It had been stated that in neurotic dyspepsias tests of the gastric contents showed an absence of hydrochloric acid.

The speaker had recently observed a case in which hyperæmia of the fundal endometrium, and apparently of the ovary also, had been caused by the growth of some small subperitoneal fibroids of the uterus, where one distressing symptom had been the frequent occurrence of violent paroxysms of gastric disturbance, consisting apparently of spasmodic contraction of the stomach, associated with intense nausea, prostration, and noisy belching of odorless gas. The stomach-pump would prove the stomach empty, and washing out had afforded it no relief. However, the paroxysm had been several times arrested by a strong, painful galvanic current passed from the lumbar spine through the ovarian region; and six electrical cauterizations of the fundal endometrium during a period of two months, together with some constitutional treatment of the anæmia, had sufficed to effect a complete cure.

Dr. W. R. **Birdsall** agreed with Dr. Wylie as to the rules for operative treatment. A variety of reflex disorders had been treated surgically, medicinally, and otherwise, and very various results had been obtained. He thought there had been a reason in each case for the result. One thing to be remembered was that the majority of those subject to neurasthenic disorders were people who were readily affected by any agent whatever which was brought to bear on them. But relief of one manifestation of irritation in such an unstable organization was very apt to be followed by another of some other sort. We saw such recurrences after relief temporarily gained by the operative or palliative treatment of nasal or ocular affections, as well as after the lifting of a prolapsed and sensitive ovary or appropriate treatment of the uterus, bladder, or rectum, where reflex disorders had arisen. The monster was hydra-headed and cropped out in other directions. This should not deter us from operating where well-marked local conditions were evidently giving rise to irritation. The relief so obtained might not be entirely due to suggestion. The irritation in question might be the straw breaking the camel's back. On the other hand, the local lesion might be the effect and not the primary cause. Still, everybody must have seen examples where the real relief of nervous disturbances was obtained by treatment of various forms of uterine associated with ovarian disease. This was illustrated in a case he had recently attended. A married woman had suffered from a peculiar nausea and faintness, as if about to lose consciousness, associated with pain, referred to the abdomen, which radiated down the thigh or up into the stomach. Examination had shown the existence of anterior flexion and prolapsed ovaries, pressure upon which had given the peculiar sensations referred to. The relief of this local condition by a suitable pessary had been followed by immediate and lasting recovery. But many cases belonging to this class could not be relieved, as where the ovaries were displaced and bound down by adhesions; here gynæcologists were apt to admit that they could do nothing, since it was not safe to attempt the removal of such ovaries. There was another class of cases in which, although on removal of the ovaries some disease was found to be present in them, the pain continued as severe after the operation as before. He had two or three such cases under his own observation.

Well-established neuralgias were not relieved by the amputation of parts in which they were seated; in other words, the neuritis once set up went on and manifested itself in parts not previously affected. He had heard it said that the pain sometimes subsided, but he had a case under observation now in which eight years after oophorectomy the pain for the relief of which that operation had been done continued as severe as ever. He believed then that there were two extremes in the nature of the conditions we had to deal with, and correspondingly in the results of oophorectomy.

Dr. H. T. **Hanks** spoke of the value of electricity in relieving the pain in ovaries bound down by adhesions. He gave an instance where an enlarged ovary had given rise to severe nervous disorders until local treatment by tampons and a pessary was used, and another in which nervous symptoms very much worse than those ordinarily suffered by a pregnant woman were found to have been entirely due to a large cystic degeneration of the ovary with adhesions binding it to the abdominal wall. He thought men of experience had come to know when an operation was advisable and when not. The pioneer work in this field had been done by Tait and others. He was satisfied that prolapsed hypertrophied ovaries should be removed. If much bound down by adhesions, electricity was the best means of relieving the irritation in them for ordinary practitioners to employ; only the most skillful operators should attempt their removal.

Dr. H. J. **Boldt** agreed with Dr. Wylie as to the tendency of established neuroses to return in time after oophorectomy, and gave the history of cases illustrative of this. In one the patient had suffered from marked attacks of hystero-epilepsy that increased in severity as age advanced in spite of all general treatment. Pressure on the ovaries had caused severe cataleptic seizures. Oophorectomy had been done, and the patient's condition had greatly improved; still attacks like those previous to the operation had gradually returned, and the patient suffered now as badly as ever. He had come to the conclusion that where the ovaries were apparently normal, no matter what the nervous condition might be, the patient would not be cured by removing them. Where the ovaries were imbedded and held down in exudations, treatment of every local sort, including tamponage, massage, and electricity, was first to be tried, and then, in case of failure, the question of removal might be raised. It should be remembered that the nervous disorder might afterward return in a distinctly worse form. Insanity had in many cases been traced to removal of the ovaries. With regard to reflex vaso-motor disturbances arising from a prolapsed and sensitive ovary, he would say that in the only case he had met with (in which swelling and discoloration of the upper extremities had been present), tampons and electricity had produced a permanent cure.

Dr. A. H. **Goelet** thought the discussion had neither proved nor disproved the existence of a true causative relation between conditions in the uterus and ovaries, and disorders in the nervous system. Prolapsed inflamed ovaries often caused only intense pain and backache and no neuroses. It had been proved that the treatment of uterine conditions might cure nervous diseases. He had himself cured epilepsy by dilating the cervix, and a case of spinal irritation that eminent neurologists had pronounced a meningitis by the treatment of an endometritis complicated by salpingitis.

Dr. M. D. **Field** spoke of the large number of female patients in lunatic asylums who had lost their ovaries. Five such had come to the asylum on Blackwell's Island within the past year, in some instances being brought there directly from Bellevue Hospital (where they had been operated on). However, they belonged to a class of persons who needed only a straw to carry them past the line of sanity, and the shock of the operation or the ether itself might have furnished this. Altogether thirty or forty cases of insanity following gynæcological operations had come under his care at the asylum named.

The **Chairman** thought those following the specialties would necessarily always be seeing and recording remarkable instances of relief to the nervous system at large from treating local ailments. However, they were certain to get into vagaries if they were imperfectly acquainted with or did not recognize the workings of the nervous system, due to its own inherent laws. Thus, when epilepsy was relieved by some operation on the genital organs, it was needful to remember that epilepsy might be relieved by any treatment whatsoever, or no treatment at all. All cases relapsed in alternation with periods of relative freedom from the disease. He had seen a case of well-marked tubercular meningitis so improved for a little time by amputation of the prepuce as to cause him to doubt the correctness of his diagnosis until the autopsy was held.

Disorders of the involuntary nervous system, when they took upon themselves a local manifestation, gave very varied results. Disturbances which rose only partly into consciousness ramified widely. Thus, when asleep and suffering from some intestinal disorder, we appeared to be in every sort of pain and distress, yet on waking recognized that the real pain was local and not exceptionally severe. Now, remembering that the involuntary nervous system presided over all the functions of the body but mounted into the consciousness to but a slight extent, it was easier to understand how difficult it might be to correctly localize a pain due to a visceral disorder acting as the starting-point of a reflex, or *vice versa*, and how the most startling successes and failures might occur alternately in the treatment of such pains. Thus, a lady living in the West had been sent to New York for the treatment of severe neurasthenia of years' duration, supposed to be of malarial origin. On leaving home, every symptom of her trouble had disappeared, so that, nothing being found to treat when she arrived here, she had been advised to return to her home again. However, the old sufferings had at once returned and she had come back to New York. Gynæcologists had refused to take her case in hand, finding no clinical indications beyond the abdominal pain complained of. He had then tried a current of fifteen milliampères passed through the painful region from one large electrode placed over the ovary (on the abdomen) to the other on the dorsal spine. Her pain had at once subsided, she had returned home, and since had never had a return of the pain or of any other of the old nervous symptoms.

Dr. **Dana** thought the general opinions expressed decidedly different from those still current in medical literature, and in advance of them.

# Reports on the Progress of Medicine.

## OPHTHALMOLOGY.

By CHARLES STEDMAN BULL, M. D.

**A Case of Injury to the Eye from Lightning-stroke.**—Buller ("Arch. of Ophth.," xvii, 2) reports an interesting case of this kind occurring in a young woman in whom there was nothing abnormal in the external appearance of the eyes, and no evidence of injury to the adjacent parts. The pupil of the left eye did not respond as quickly to light as that of the right eye. The refraction was hypermetropic: Right eye, V. normal; left eye, V. = $\frac{6}{15}$. Insufficiency of the external recti, possibly due to the injury. In the left eye there was an opacity at the posterior surface of the lens, but distinct from a polar cataract. The vitreous contained some floating opacities. Optic nerve very pale, with indistinct outlines. Retinal vessels diminished in caliber, and some of the fine vessels of the papilla invisible. Signs of circumvasculitis retinæ. At extreme external periphery of fundus there was a broad irregular patch of chorioidal pigmentation, at the center of which was a broad patch of a dull-orange color, resembling either a circumscribed rupture of the chorioid or an imperfectly absorbed effusion of blood, or perhaps both. The color sense was impaired.

**A Case of Intra-ocular Sarcoma at the Central Region.**—Griffith (*ibid.*, xvii, 2) reports a case of this kind occurring in a man, aged thirty-two, who complained of a gradually increasing loss of sight for eleven weeks. The ophthalmoscope showed a rounded opaque prominence, closely covered by the retina, growing from the center of the fundus near the outer side of the optic disc, rising steeply at the side near the disc, but gradually shelving down below and outward. The appearance of the disc was unchanged, and the refraction was emmetropic. The most prominent part of the tumor was hypermetropic, D. 10, and was of a light-yellow color. The examination of the visual field showed a normal periphery, with a scotoma just above the center, about 15° in diameter. After enucleation, an examination of the tumor showed a smooth, rounded surface, covered by the hexagonal pigment layer. The attached surface was adherent to the sclera. The cut surface showed a light-yellow color, with a dark-chocolate color on the temporal side. The microscope showed the structure of a spindle-cell sarcoma.

**Synchronous Movements of the Upper Lid and Maxilla.**—O. Bull (*ibid.*, xviii, 2) reports the case of a young man, aged nineteen, who had always had a drooping of the right upper lid, and in whom the sight of the right eye had always been defective. As long as the patient could remember, the lid was raised whenever he opened his mouth. The patient was a pale, slender lad, one of eleven children, with healthy parents. The upper lid drooped so much that the palpebral fissure did not exceed 3 mm. When the patient opened his mouth, the lid was raised so much that the greater part of the pupil became visible. The movement of the eyeball remained free in all directions except upward, where it was limited. When the other eye was covered, and the patient looked up, he could raise the lid to a degree equal to that produced by keeping the mouth wide open. The fundus was normal.

**Unilateral Tonic Spasm of the Ciliary Muscle induced by Pressure on the Carotids.**—O. Bull (*ibid.*, xvii, 2) reports a case of this rare nature in a woman, aged thirty-eight, who had suffered from metritis for several years, the treatment for which had consisted in massage on the perinæum and pressure over the carotid arteries. On the last occasion of massage of her neck she suddenly felt a tension in her right eye, and since then everything had appeared larger and of a reddish-yellow color. The pupils of both eyes were equal in size, and reacted both to accommodation and light. Right anterior chamber shallow. In right eye, pronounced hyperæmia of the optic disc, ophthalmoscopic refraction − 5·50 D., vision normal with − D. 4·50. In left eye, refraction − D. 1, vision normal. Visual field normal. The near point and remote point of the right eye were at eight inches, and in the left eye at eight inches and a half. After a number of instillations of atropine in the course of several days, the refraction became hypermetropic about D. 0·50. At the end of nine months the eyes had returned to their normal condition.

**A Varicose Tumor of the Lower Lid, not Visible with Head Erect, but forming a very large Tumor with Head Horizontal.**—Chisolm (*ibid.*, xvii, 2) here reports the case of a man, aged fifty-nine, who eighteen years before noticed a discolored spot at times on the left lower lid after stooping. It was always painless. This spot slowly enlarged, but for the last four years had been stationary. When the head was erect, no trace of the swelling was visible. When he looked downward for a short time the lower lid of the left eye rapidly swelled until it attained the size of a fowl's egg, and temporarily closed the lids. When the head was lifted, the swelling rapidly disappeared. It was diagnosticated as a varicose vein of large size limited to the lower lid, and the following operation was done for its relief: When the sac was most distended, a heavy seton composed of several strands of silk thread was passed through the whole length of the sac. By the end of the fourth day the skin was much thickened. The seton was left *in situ*, and the opposing walls of the sac were clamped together by passing three double sutures from the inner face of the lid through the tumor, and securing them over a roll of sponge. Each of these sutures had two needles. By passing one needle through the upper part of the lid, and the other deep in the *cul-de-sac*, and tying the threads over the sponge, the clamp of thread on the conjunctiva within and the sponge without brought the whole opposing surfaces of the flattened tumor in contact. These sutures, with the seton, were removed on the third day. Six weeks after the operation the sac was entirely obliterated.

**The Pathogenesis of Sympathetic Ophthalmia.**—Randolph (*ibid.*, xvii, 2) has been carrying on some experiments directed toward the elucidation of the manner in which sympathetic inflammation is propagated. His results, so far as confirming the theory that sympathetic ophthalmia is propagated along the optic nerves and their sheaths was concerned, were entirely negative. He found the optic nerve of the infected eye at its intra-ocular end always infiltrated, but no noticeable progress of the inflammation for more than a very short distance from the eye was ever observed. Still he thinks that infection does play a rôle in the production of sympathetic inflammation. His experiments shed no positive light upon the mode of production of sympathetic inflammation of the eye, for in no instance was this affection a sequel of the operation.

**A Contact-lens.**—Fick (*ibid.*, xvii, 2) describes a contact-lens devised by himself for improving the vision in cases of abnormal curvature or opacity of the cornea. It consists of a thin glass shell, bounded by concentric and parallel spherical segments. It is placed upon the eye, and the interspace between it and the eyeball is filled with a liquid having the same refractive index as the cornea. Rays of light then undergo a certain amount of refraction upon entering the liquid, which may be considered as extending forward to the anterior surface of the glass shell; but they suffer no deviation in their course while passing from the liquid into the cornea, and thus the irregularities in the passage of rays of light from the air into the cornea must be lost. Fick's shells are segments of glass vesicles, 21, 20, and 19 mm. in diameter, the base being distant but a few millimetres from the equator of the sphere. The introduction of these glass shells beneath the lids is very easy. It was found that well-fitting glasses need not be held in place by the lids, as they adhered to the globe, accompanying the eyeball in all its movements, and not permitting a drop of the previously introduced liquid to escape. After six or eight hours the liquid becomes cloudy, and the ocular conjunctiva is slightly injected. The latter disappears with extraordinary rapidity after removal of the glass. After repeated experiments with many liquids, a two-per-cent. solution of grape-sugar was found to answer all requirements. Fick recommends the following formula for the construction of the contact-lens: A glass cornea having a radius of curvature of 8 mm. rests with a base of 7 mm. radius upon the glass sclera; the latter has a breadth of 3 mm. and corresponds to a sphere whose radius of curvature is 15 mm.; the glass cornea has parallel surfaces, both of which are ground and polished; in the same way the free edge of the glass sclera is ground and polished; the weight of a contact-lens is about 0·5 gramme.

**Paralysis of the Oculomotor Nerve on the Right and the Abducens on the Left Side.**—O. Bull (*ibid.*, xvii, 2) reports a case of this kind in a man, aged thirty, who had had a chancre three years before. He had first paralysis of the right oculomotorius, which was followed ten days later by paralysis of the left abducens. In the course of ten months the paralysis of the abducens had entirely disappeared, and there was nothing left of the oculomotor paralysis except a slight ptosis. The lesion was probably located in the nucleus of the right oculomotor, as Duval has shown that some fibers from the nucleus of the abducens pass to the oculomotor of the opposite side.

**Pain following Evisceration modified by cauterizing the Interior of the Sclera with Carbolic Acid.**—Prince ("Amer. Jour. of Ophth.," July, 1888) thinks that the severe pain following evisceration of the eyeball is caused by the inflammatory irritation and pressure on the ciliary nerves, lying in grooves on the inner surface of the sclera, and he recommends that they be anæsthetized by an application of pure carbolic acid (95 per cent.) applied to the inner surface of the sclera on a cotton-holder.

**The Physiological and Pathological Conditions of the Pupil and Accommodation.**—Jessop ("Ophth. Rev.," August, 1888) draws the following conclusions from his investigations: The intra-ocular muscles are two circularly disposed muscles, the pupillary and ciliary, and in mammals consist of unstriped muscular fiber. They are each supplied by two antagonistic sets of nerves, the short and long ciliary. The short ciliary nerves induce on stimulation extreme contraction of both muscles, and the long ciliary nerves produce the opposite effect—namely, relaxation of the muscles. The fibers of the short ciliary nerves can be traced to different collections of cells as centers, thus separating the action of the pupillary from ciliary muscle. In the same way the long ciliary nerves are connected with different centers; by the visceral fibers of the fifth nerve they are connected with a center in the medulla for the ciliary muscle, and by the cervical splanchnics and second dorsal nerve with the spinal cord and medulla for the pupillary muscle. Atropine, eserine, and cocaine act in the same manner on both muscles. The actions of the ciliary muscle are to contract on accommodation and to dilate on relaxation of accommodation. Thus the ciliary muscle acts normally in association with the pupillary, and the pupillary may either act by itself or in association with the ciliary, according to the stimulus provoking the action. The pupil may be affected as to its size by the condition of its blood-vessels irrespective of its muscular fiber, but there are no experiments showing that accommodation may be effected by vascular supply alone.

**Embolism of the Retinal Artery cured by Massage.**—Mules (*ibid.*) reports the case of a young woman, aged twenty-one, who suddenly perceived a blank over a portion of the upper segment of her right visual field. Within an hour she was examined, and her right visual field was contracted above. The fundus showed a blocked lower retinal artery, the colorless clot being visible and extending from the entrance at the disc to the first bifurcation. The retina was slightly œdematous. Massage was tried, and the clot disappeared, sight at once improved, and the vessel was seen well filled.

**The Use of Mydriatics in determining Errors of Refraction, and the Correction of the whole Error so determined.**—Bruns ("Am. Jour. of Ophth.," June, 1888) submits the following propositions: 1. Without the use of a mydriatic it is impossible to determine with perfect accuracy the total amount of refractive error in cases of H. or M., the action of the ciliary muscle causing the former to appear less and the latter greater than the degree present. 2. The presence of astigmatism can usually be determined without a mydriatic; the amount will be found to vary at each trial, and there is nothing to indicate which is the true result. 3. In regular mixed astigmatism the sources of error in both H. and M. coexist. 4. Hence the use of a mydriatic in the case of every patient under fifty or sixty should be a "hard and fast rule," only to be departed from when the circumstances of the patient absolutely forbid his submitting to the inconvenience entailed by the use of the drug. Bruns believes that the whole error of refraction revealed by the mydriatic should be corrected, and that the idea of "ciliary tension" or "tone" is a phantom of the imagination.

**Fugitive Œdema of the Eyelids.**—Schweinitz (*ibid.*) reports a case of this nature occurring in a woman who was subject to periodical headaches, which usually appeared once in every ten days or two weeks. Recently, after a severe headache, lasting for three days and located chiefly in the distribution of the right supra-orbital nerve, œdema of the right eyelids and the right half of the forehead appeared, accompanied by a throbbing sensation at the upper and inner angle of the eye. Under the local use of hot stupes and the internal administration of Basham's mixture, this œdema subsided in a few days. Three weeks later, after another headache, the œdema again appeared. Under the same treatment, with the addition of potassium iodide and sodium salicylate, the swelling and pain again subsided, to recur again ten days later. Since then there had been no reappearance of the œdema, though the headaches had continued.

**A Case of Osteo-fibro-lipoma of the Conjunctiva.**—Prout and Lennox (*ibid.*) report an interesting case of conjunctival tumor in a woman aged twenty-eight. When she was born there was a small tumor under the outer part of the upper lid, with a hair growing from it. It gradually became less conspicuous, but since her marriage, at the age of twenty, it had grown larger. With closed lids the growth can be felt as a flat, freely movable body under the lid, retreating on pressure beneath the margin of the orbit. When the lid was everted the tumor felt firm and elastic and measured 12 × 18 mm. The conjunctiva was thickened and injected over it, but not adherent to it. The growth was removed and under the microscope was seen to consist chiefly of fat in which were numerous bands of fibrillar connective tissue. One of its surfaces was smooth and covered by epithelium. Near the center of the tumor there was a hard mass of darker color, which was found to consist of fully formed bone-tissue surrounded by a fibrous capsule.

**The Theory and Application of Skiascopy.**—Chouet ("Rec. d'ophthal.," June, 1888) presents the following conclusions as to the theory and application of skiascopy: 1. The term skiascopy should be definitely adopted as the correct term for this method of examination. 2. The method should become one of common employment, particularly for all cases requiring rapid examination. 3. It admits of an immediate recognition of the refraction of an eye and of a sufficiently exact measurement of the degree of error.

**Iridectomy; a New Operative Procedure.**—Abadie ("Ann. d'oc.," June, 1888) thus describes his new operation: With two sharp lance-knives he makes simultaneously two incisions, 4 or 5 mm. in length, one above and the other below the corneal margin. He then introduces the scissors-forceps, one arm of which is pointed, through the center of the lower section and passes the pointed arm beneath the iris, and then cuts right and left, circumscribing the apex of a triangle. He then introduces the iris-forceps, seizes the portion of membrane detached by the two preceding cuts, draws it out of the wound, and then cuts it off at the base of the triangle. This leaves a large, triangular, gaping hole.

**The Perfectibility of the Chromatic Sense in Man.**—Deneffe (*ibid.*, June, 1888) gives the following *résumé* of the subject: 1. Education has given to the color-sense of woman a very great superiority over that of man. 2. The education of the color-sense in man improves and perfects this sense to a marked degree. 3. General education, which includes a voluntary or unconscious education of the color-sense, also perfects this sense. 4. The color-sense is improved in accordance with the development of the patient from childhood to adult life. 5. In school, education in a personal and hereditary sense makes a marked distinction between the children of the upper classes and those of the lower. The final conclusion is that the color-sense should be educated and perfected from the earliest years.

**Sclero-corneal Ruptures and their Treatment.**—Nuel (*ibid.*, June, 1888) describes an operation for the relief of this condition as follows: A broad sclerotomy is made, passing through the middle of the ectatic region, the edge of the knife being turned toward the equator of the eye. The conjunctiva is then to be sutured in such a manner as to close the opening in the sclera by drawing forward as much tissue as possible. The suture is passed in and out beneath the conjunctiva at the equator of the eye, parallel to the corneal margin. One end is brought toward the opposite end of the incision and passed in and out beneath the corneal flap of the conjunctiva to the point whence it is turned toward the equator, crossing its first direction, and it is then tied. This disposition of the suture pulls the conjunctiva from all sides toward the fistulous opening, like the cord of a purse. On the third day, the anterior chamber being re-established, a puncture is made at the lower portion of the cornea, and this is opened daily for a week, so as to give exit to the aqueous humor and prevent its filtering through the lips of the wound. The eye is to be kept bandaged for ten days or even longer, and for a week both eyes are closed.

**Enucleation in Panophthalmitis.**—Rolland ("Rec. d'ophthal.," July, 1888) recommends the following method of enucleation in cases of panophthalmitis: The conjunctiva is to be detached from the cornea, and the eyeball is then to be split open in the horizontal diameter with a cataract knife. The cavity of the sclera is then to be injected with some antiseptic solution by means of a syringe until all the contents of the sclera have been washed out clean. Then the collapsed eyeball is to be enucleated in the usual way, and the orbital cavity is then immediately washed out with some antiseptic solution. Finally, after all hæmorrhage has ceased, the clots are carefully removed and an antiseptic bandage applied.

**Amblyopia due to Poisoning by Nitrobenzol.**—Nieden ("Ctrlbl. f. prak. Aug.," July, 1888) reports a case of this kind occurring in a young man aged twenty-six. The patient was deeply cyanotic, including the conjunctival veins, and had the appearance of a person afflicted with heart disease or asthma. His breath had the odor of bitter almonds. Pupillary reaction and accommodation were normal. There was marked hyperæmia of the retinal veins. The discs were clearly defined, except for a small exudation on the lower margin of the right disc. There were no hæmorrhages in the fundus. Vision was reduced in both eyes to $\frac{10}{200}$. The vision at the periphery was diminished. There was concentric limitation of the field for all colors, that for blue being more limited than that for any of the other colors. The patch of retinal exudation was markedly a defect in the infero-nasal quadrant. The visual disturbance appeared fourteen days after the general symptoms of poisoning. At the end of the fourth week the vision began to improve, and at the end of the sixth week the patient was discharged from observation.

**Corneal Curvature under Increased Intra-ocular Tension.**—Eissen ("Arch. f. Ophthal.," xxxiv, 2) draws the following conclusions from his investigations: 1. The eye of the rabbit has a physiological tension of about 24 to 25 mm. A relatively slight increase of this physiological tension causes a change of form of the cornea. 2. Helmholtz's statement that the corneal curvature depends on the tension of the intra-ocular fluid, so that the radius of curvature of the cornea becomes greater the greater the tension, is proved true. 3. With an increase of the intra-ocular tension, the existing astigmatism, after a transient increase with relatively low degrees of tension, successively diminishes. 4. The normal astigmatism reverses itself with increased tension of the capsule of the eye and becomes a paradox, since the long axis turns away from the horizontal and toward the vertical. 5. Among forty-six rabbits' eyes the corneal curvature did not react twice in the same way to the gradual increase of the intra-ocular tension, not even in the same animal.

**The Histogenesis of the Retina and Optic Nerve.**—Falchi (*ibid.*, xxxiv, 2) makes the following *résumé* of his investigations: In the histogenesis of the retina the increase of its elements occurs by the process of caryocinesis, which in some of the *Mammalia* continues up to the seventh day. The process of mitosis is seen not only in the cells of the external superficial layer of the distal lamella, but also in the other layers of this lamella. In the histogenesis of the optic nerve the increase in volume of the nerve is due to increase of the cells lying between the bundles of nerve-fibers by means of caryocinesis, and by the increase in volume of the bundles of these fibers. The frame-work of the optic nerve is formed mainly by the cells which represent the walls of its trunk, which, however, have undergone changes, but also in part by the elements of the mesoderma. The optic nerve of the *Mammalia* is to be regarded as a part of the brain. The walls of the pedicle of the secondary ocular vesicle are transformed into the frame-work of connective tissue by the help of the mesoderma.

**Retinitis Hæmorrhagica following an Extensive Burn of the Skin.**—Wagenmann (*ibid.*, xxxiv, 2) reports in detail a very interesting case of the above nature, from which he draws the following conclusions: The retinitis in this case is due to the same cause as the other serious organic changes met with in severe burns, especially the inflammation and ulceration of the intestines—that is, the change in the composition of the blood caused by the injury—and not to some reflex influence from the external surface, through the medium of pyæmia or septicæmia. It is, however, not possible to say whether the retinitis is the direct result of some embolic obstruction in the small blood-vessels or not.

**Absolute Right Hemiachromatopsia; Partial Preservation of the Perception of Light and Shape; Old Hæmorrhagic Cyst of the Lower Part of the Left Occipital Lobe.**—Verrey (*ibid.*, July–August, 1888) reports an interesting case of this rare affection occurring in a woman, aged sixty, who was hypermetropic and had a central acuity of vision of three fourths. The ophthalmoscope showed nothing abnormal. There was a slight concentric limitation of the field of vision in all directions, amounting to 15° or 20°. On testing for color, there was found a total right hemiachromatopsia. In the left half of the visual field the sense for color was present but somewhat limited. About fifteen months before, the patient had had a violent attack of vertigo, followed by vomiting and violent pain at the vertex, but no loss of consciousness. The vomiting continued for several days, and when the patient was better she found that she could not read as easily as before the attack, as long words puzzled her. The patient's condition remained about the same for six months, when she had an attack of apoplexy in which she died. Between these two attacks there occurred several slight ones of the same general character. The autopsy showed in the right cerebral hemisphere, at the level of the corpus callosum, a considerable hæmorrhage which lay in a cavity as large as a hen's egg and had destroyed the centrum ovale and the central ganglia, and had penetrated the right lateral ventricle. In the center of the corpus callosum was a thrombosis surrounded by a bright-red spot about two centimetres in length. In the left hemisphere were a number of small red spots at the point of union of the cuneiform lobe with the fusiform and lingual lobes—that is, at the posterior extremity of the median surface of the occipital lobe. The lesion of the corpus callosum was a recent laceration from rupture of a blood-vessel. The lesion in the occipital lobe was between the floor of the left lateral ventricle and the basilar surface of the occipital lobe, and occupied the white substance of the third occipital convolution. It had more or less completely destroyed the white substance of the occipital extremity of the lingual and fusiform convolutions, and of the postero-inferior end of the cuneiform fold. Verrey reasons from the results of this autopsy that the center for the color sense resides in the lowest part of the occipital lobe, probably in the posterior part of the lingual and fusiform folds.

**Myopia and its Connection with Astigmatism.**—Chauvel (*ibid.*, July–August, 1888) comes to the following conclusions: 1. The amplitude of accommodation is not modified in any special or regular manner by myopia, but it generally decreases slightly in high degrees of myopia. 2. Visual acuity for distance, without correction, diminishes rapidly as the myopia increases; visual acuity for distance, even with spherical correction, shows marked progressive diminution in excessive degrees of myopia. 3. The visual field is likewise modified in its extent in high degrees of myopia; it is progressively and regularly limited in its various diameters. 4. The posterior staphyloma follows in its development *pari passu* with the development of the myopia, and is a proof of the intimate connection which exists between the ametropia and the chorioidal lesion. 5. Regular astigmatism is much more frequently met with in high degrees of myopia than in low degrees, but there is no special connection between the two varieties of ametropia. They frequently coincide, but exert no influence on each other. 6. If in some cases the seat of the staphylomatous crescent seems to agree with the principal astigmatic meridians, still the facts show positively that the inclination of the latter exerts no influence upon the situation of the sclero-chorioidal ectasia.

**Enucleation in Panophthalmitis.**—Panas (*ibid.*, July–August, 1888) thinks that enucleation should be performed as soon as the efforts made to arrest the suppurative process in the eyeball have proved futile. Even when the panophthalmitis is in full blast, the operation should be done, provided that there are no lesions present which would indicate a generalization of the infection, and provided that the patient has no constitutional defect, such as albuminuria or diabetes. Of course rigid antisepsis is always to be employed.

**An Operation for Symblepharon.**—De Laperronne (*ibid.*, July–August, 1888) describes the following operation: If the symblepharon is triangular, with the apex at the cornea and the base toward the palpebral margin, the apex is to be carefully dissected from the cornea. The symblepharon is then divided into three portions by two incisions, extending from the cornea toward the margin of the lid. The middle portion is dissected freely as far as the edge of the lid. The lateral portions are detached, on the contrary, from the edge of the lid by curved incisions which remain always at the same distance from the cornea. Two quadrilateral flaps are marked out by following inward and outward the margin of the cornea, and these flaps should be very freely loosened, so that they may be brought together without too much stretching. Next, all the cicatricial bridles in the *cul-de-sac* must be freely divided. The two lateral parts are then brought together, so as to cover the raw surface of the globe, and a suture is inserted near the cornea. For the lower suture he uses a thread armed with two needles; the suture is passed through the flaps near their lower angles and is then crossed twice; the needles are then passed into the *cul-de-sac* as far as possible and are brought out on the cheek, two centimetres from each other and about two fingerbreadths below the edge of the lid, and tied over a roll of kid. Finally, the small middle flap is applied to the inner surface of the lid by a suture with two needles passed through the lid, and by several lateral sutures. The thermo-cautery is then passed over the surface of the cornea occupied by the apex of the symblepharon.

**Indications for Hypodermatic Injections of Antipyrine in the Temple in Ophthalmic Practice.**—Grandclément (*ibid.*, July–August, 1888) recommends subcutaneous injections of antipyrine in the temple as very efficacious in: 1, Ocular and periosteal neuralgia; 2, in muscular spasms; 3, in most of the inflammatory processes of the globe. Where the drug proves favorable, two or three injections suffice. The strength he recommends consists of twenty-five centigrammes of antipyrine and one centigramme of cocaine in ten drops of water. The injection provokes sharp pain for one or two minutes, and this is followed by a slight swelling, which lasts six or eight days.

**Conjunctival Diphtheria.**—Venneman (*ibid.*, July–August, 1888) admits two forms of inflammation of the conjunctiva—a superficial and a deep fibrinous inflammation. The first he calls croupous conjunctivitis, and the second diphtheritic conjunctivitis. General pathology does not absolutely confound these two inflammatory states, and even distinguishes a superficial and a deep diphtheritic inflammation. This superficial diphtheria in mucous membranes with stratified epithelium, while equivalent to croupous conjunctivitis, resembles clinically at first diphtheritic conjunctivitis. The later stage of suppuration, followed by visible cicatrices, is a late symptom of fibrinous conjunctivitis, which admits of confirming or of correcting the previous diagnosis of croup or diphtheria. Besides the infectious and contagious disease called diphtheria, there exist other general morbid conditions capable of impressing upon the inflammation of a mucous membrane the fibrinous form, such as measles, scarlet fever, variola, cholera, pneumonia, etc. If there exists a special microbe of diphtheria, which causes the habitually fibrinous form of inflammation of mucous membranes in this affection, in the other contagious maladies just cited it is to the debility of the organism consecutive to these disorders that must be attributed the tendency of mucous catarrhs to assume the fibrinous, croupous, or diphtheritic form. Every croupous or diphtheritic conjunctivitis is not a manifestation of diphtheria. Real diphtheria of the conjunctiva is not frequent. Venneman, therefore, proposes to designate fibrinous inflammations of the conjunctiva by the names of croupous or diphtheritic conjunctivitis, according as the inflammation is superficial and benign or deep and serious. He restricts the name "diphtheria of the conjunctiva" to the croupous or diphtheritic conjunctivitis, the localization in the eye of the general infectious malady known under the name of diphtheria. These forms of conjunctivitis demand an energetic antimicrobe treatment, and Venneman recommends tannin and mucilage as a valuable method of treatment.

**Hemianopsia of Central Origin, with Special Reference to Acquired Color-blindness.**—Mackay ("Ophthalmic Review," September, 1888) begins by stating that the visual disturbance accompanying lateral homonymous hemianopsia may vary in two ways: 1. In the extent of the field affected. According to the extent the cerebral or nerve substance of the visual nerve apparatus is involved, there may be a small homonymous scotoma, a sector-like defect, or loss of the entire half-field. The hemianopsia is, accordingly, incomplete or complete. 2. In the degree of visual loss. If all three perceptions are lost at any part where they should normally be present, the hemianopsia is absolute. In many cases the loss is partial. In one case, which was at first regarded as a case of pure color-defect, a second investigation with more delicate test-objects than ordinarily employed showed also a decreased form-sense. Mackay thinks it a fallacy to regard the field for white as a measure of the light-sense. It is important to inquire into the patient's power of perceiving and distinguishing white and black peripherally before employing a test-object for the form-sense based on the contrast between them. A satisfactory test for the light-sense at the periphery is much needed.

**Color-blindness.**—Grossmann (*ibid.*, September, 1888) thinks it desirable that the laity should be convinced of the dangers resulting from the employment of color-blind people in the railway and marine service. He gives the name of "twin colors" to two different fundamental colors which appear identical to the color-blind eye. Such twin colors are green and yellow, dark-green and brown, brown and red, etc. To some of these twin colors a third fundamental color could be found identical for the color-blind, and for such, a set of three colors the name of "triplet colors" has been used. But while a certain green and brown is a twin color for all red-green blind individuals, the red is not equally identical to all; both for twin and triplet combination it often fails, appearing to some darker, to others lighter, than the corresponding green or yellow. The principal reason for this peculiarity is the difference which exists in different color-blind individuals in the perception of rays of various lengths.

**A Peculiar Variety of Keratitis.**—Sédan ("Rec. d'ophthal.," August, 1888) here refers particularly to certain intralamellar lesions of the cornea which affect certain variable directions like lines, and all of which profoundly disturb the visual acuity. They seem to result from an unequal traction in a sclero-corneal cicatrix. Whenever they have been observed there has been a wound ending in a cicatrix. They disappear without leaving any durable lesion, even of a circumscribed character. The treatment is still doubtful; dry heat and massage have succeeded.

**Ophthalmoplegia Externa and Paralyses of the Bulbar Motor Nerves in their Relation to Exophthalmic Goitre and Hysteria.**—Ballet (*ibid.*, August, 1888) draws the following conclusions from his investigations: 1. Ophthalmoplegia externa consists of paralysis of the motor muscles of the eyeball, with possible integrity of the functions of the levator palpebræ and constant preservation of the movements of the sphincter iridis and muscle of accommodation. 2. This concurrence may be observed in persons affected with both exophthalmic goître and hysteria, with hysteria alone, or with exophthalmic goître alone. 3. In these cases the ophthalmoplegia externa signifies that there is a paralysis of the motor ocular nerves, the cause of which, certainly central, lies at the level or above the real origin of these nerves. 4. The possible coincidence of ophthalmoplegia externa and exophthalmic goître constitutes, therefore, an argument in favor of the theory which connects Basedow's disease with a lesion of the central nervous system, particularly a bulbar lesion. 5. There may be, moreover, observed in persons affected with exophthalmic goître, paralysis of other motor nerves emerging from the medulla—such as the motor branch of the trifacial, the facial, and the great hypoglossal nerves. 6. The constant symptoms of Basedow's disease are themselves dependent on nuclear bulbar paralyses—nuclear paralysis of the pneumogastric, which causes tachycardia and sometimes dyspnœa and gastric symptoms; paralysis of the vaso-motor centers, which causes congestive attacks of the face and neck. The goître and the exophthalmus result from the coincidence of these two forms of trouble—vaso-motor paralysis and tachycardia. 7. These different paralyses do not depend on a material lesion. They are simple functional troubles susceptible of amelioration or aggravation, of cure, and of relapses. 8. From all that precedes, it is evident that Basedow's disease is primarily a bulbar neurosis. 9. These functional troubles, however, often extend beyond the sphere of action of the medulla; to disorders of bulbar origin are then added symptoms of medullary or cortical origin. 10. Graves's disease is frequently associated with other neuroses—hysteria, epilepsy, and mania.

## Miscellany.

**The Registration of Vital Statistics.**—At a meeting of the New York County Medical Association, on June 17th, a committee, consisting of Dr. J. G. Truax, Dr. J. R. MacGregor, and Dr. Alfred L. Carroll, submitted the following report:

It has long been evident that the method hitherto employed for registering births fails to record a large percentage of the actual nativity, the official returns often showing an apparent preponderance of deaths over births, so great that, if real, it would portend rapid depopulation. The reason for this deficiency, in the opinion of your committee, is that the sole reliance of the sanitary authorities has been placed upon the medical profession and the few midwives whom it has been possible to register and keep under supervision. Not only do scores of unknown women surreptitiously officiate in lying-in rooms, but among the multiparæ of the poorer class many children are born without the ministration of either physician or a pretended midwife, some member of the family or obliging neighbor lending such assistance as may be needed. It is certain that, on an average, about a thousand births a week occur in the city of New York, of which, as a rule, scarcely sixty per cent. are reported.

To rectify a similar but even greater defect, which existed in smaller populations under the same faulty method of obtaining returns, the State Board of Health, in 1885, procured an amendment to the Public Health Act, specifically putting the onus of reporting a birth—where it is properly put in other countries aiming at a complete registration—upon the parents or custodian of the child born. The effect of this alteration was a speedy increase in the recorded birth-rate, and this increase, we are informed, has been steadily progressive. The clause in question, which applies to the whole State, with the exception of New York, Brooklyn, Yonkers, Albany, and Buffalo, whose health boards have special charters, reads thus:

"And to secure the completeness of the said registration it shall be the duty of the parents or custodian of every child, and the groom at every marriage, or the clergyman or magistrate performing the ceremony, to secure the return of the record of such birth or marriage to the board of health or person designated by them within thirty days from the date of such birth or marriage, and each record shall be duly attested by the physician or midwife (if any) in attendance at such birth, or the clergyman or magistrate officiating at such marriage. . . . And it shall be the duty of the undertaker, sexton, or other person having charge of the body of any dead person, to procure a record of the death and its probable cause duly certified by the physician in attendance on the deceased during his last illness or by the coroner where an inquest is required by law; and there shall be no burial or removal of the body of any dead person until said duly certified record shall have been presented to the Board of Health or person designated by them, and until thereupon a permit for burial or transit shall have been obtained."

It may be objected that the difficulty of practically enforcing such a rule in a densely populous community, containing a large proportion of ignorant or careless persons, seems almost insuperable; and it must be admitted that time would be needed to familiarize all classes with its requirements. But, even at first, the returns could not be more defective than they now are, and the public would ere long learn that the greater part of the machinery of registration is for their personal benefit. In the far vaster population of London this system operates with satisfactory results. For the mere object of vital statistics it suffices to know the number of births of each sex, and the number of deaths at different ages, with their direct and indirect causes. The names and other genealogical details serve only for purposes of forensic identification, and are often of essential importance in determining questions of inheritance. It is consequently but equitable that they should be furnished by the persons chiefly interested, instead of by the medical attendant, within whose province they do not legitimately fall.

In cases where an illegitimate birth imperils the character of an otherwise reputable woman and the happiness of a respectable family it is not often that any threatened penalty could induce a physician to violate his confidential relations with his patient by divulging her name and circumstances; nor should he be expected to do so. Indeed, it appears to your committee to be questionable whether his reticence is not protected and even commanded by the State law forbidding the breach of professional confidence. And we would parenthetically observe that the same argument seems pertinent to the reporting of infectious disease, which, by the ordinance of the Health Department, is exacted from the unfortunate physician, who is placed in the dilemma of being fined for not giving information or mulcted in damages for giving it. Moreover, the shifting of this obligation from the tenant of the infected household to the already overburdened shoulders of the doctor inevitably leads to the concealment of many cases of contagious disorder without medical care, and thus conduces to a positive increase in the mortality from such maladies.

As regards the registration of births, to which our attention has been principally directed, we would therefore recommend that the provisions of the general Public Health act be applied to this city as well as to the State at large, with the addition, perhaps, of a cumulative penalty for delay in reporting after a stated interval; and we would further suggest that in illegitimate births the record of the mother's name be not obligatory.

While no system can insure absolute perfection of birth-returns, especially under our form of popular government, until all the people are convinced of its advantages, it is believed that the method above advised will in time be found here, as it has been abroad, to be the only one promising an approach to completeness.

**The late Dr. James B. Hunter.**—At a recent meeting of the New York Obstetrical Society the following preamble and resolutions were adopted:

*Whereas*, It has pleased Almighty God in his infinite wisdom to remove from our midst our friend and colleague, James Bradbridge Hunter, in the prime of his life and in the morning of his usefulness; therefore be it

*Resolved*, That while we bow in submission before his supreme will, we recognize in his fiat the loss of one beloved and honored by us all for his gentle virtues and manly qualities; of one who will long be regretted; and whose place will forever remain unfilled amongst us.

*Resolved*, That in his removal the entire profession of medicine in America suffers a loss which can not fail to be appreciated by all connected with it.

*Resolved*, That the kind sympathy of this society, for which he has done so much, and its sincere condolence be tendered to his bereaved family; and that it cause a copy of these resolutions to be spread upon its minutes, published in several of the daily and medical journals of the city, and transmitted to his immediate relatives.

[Signed.]
T. GAILLARD THOMAS, M. D.,
CLEMENT CLEVELAND, M. D.,
HENRY CLARK COE, M. D.

At a meeting of the faculty of the New York Polyclinic, held June 20, 1889, the following preamble and resolutions were adopted:

*Whereas*, This institution has been called upon to mourn the loss of its president, the late Dr. James B. Hunter; therefore be it

*Resolved*, That in the death of Dr. Hunter the faculty of the Polyclinic has lost an active, efficient, and conscientious leader, and the institution a teacher of rare experience, untiring devotion, and distinguished success.

*Resolved*, That we recognize that in the abrupt termination of his laborious, able, and worthy career the medical profession has lost one of its most accomplished and honored members, one whose death we profoundly deplore, whose memory we venerate.

*Resolved*, That we extend to his family our heartiest sympathy, assuring them that we too have lost a trusted companion and a loyal friend.

*Resolved*, That a copy of these resolutions be presented to the family of Dr. Hunter, and that they be published in the "New York Medical Journal," the New York "Medical Record," and the "American Journal of Obstetrics."

[Signed.]
PAUL F. MUNDÉ,
E. B. BRONSON,
D. B. DELAVAN,
*Committee.*

**To Contributors and Correspondents.**—*The attention of all who purpose favoring us with communications is respectfully called to the following:*

*Authors of articles intended for publication under the head of "original contributions" are respectfully informed that, in accepting such articles, we always do so with the understanding that the following conditions are to be observed: (1) when a manuscript is sent to this journal, a similar manuscript or any abstract thereof must not be or have been sent to any other periodical, unless we are specially notified of the fact at the time the article is sent to us; (2) accepted articles are subject to the customary rules of editorial revision, and will be published as promptly as our other engagements will admit of—we can not engage to publish an article in any specified issue; (3) any conditions which an author wishes complied with must be distinctly stated in a communication accompanying the manuscript, and no new conditions can be considered after the manuscript has been put into the type-setters' hands. We are often constrained to decline articles which, although they may be creditable to their authors, are not suitable for publication in this journal, either because they are too long, or are loaded with tabular matter or prolix histories of cases, or deal with subjects of little interest to the medical profession at large. We can not enter into any correspondence concerning our reasons for declining an article.*

*All letters, whether intended for publication or not, must contain the writer's name and address, not necessarily for publication. No attention will be paid to anonymous communications. Hereafter, correspondents asking for information that we are capable of giving, and that can properly be given in this journal, will be answered by number, a private communication being previously sent to each correspondent informing him under what number the answer to his note is to be looked for. All communications not intended for publication under the author's name are treated as strictly confidential. We can not give advice to laymen as to particular cases or recommend individual practitioners.*

*Secretaries of medical societies will confer a favor by keeping us informed of the dates of their societies' regular meetings. Brief notifications of matters that are expected to come up at particular meetings will be inserted when they are received in time.*

*Newspapers and other publications containing matter which the person sending them desires to bring to our notice should be marked. Members of the profession who send us information of matters of interest to our readers will be considered as doing them and us a favor, and, if the space at our command admits of it, we shall take pleasure in inserting the substance of such communications.*

*All communications intended for the editor should be addressed to him in care of the publishers.*

*All communications relating to the business of the journal should be addressed to the publishers.*

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